JULY 1983 NUMBER 467 -- Part I

P-A STACKS
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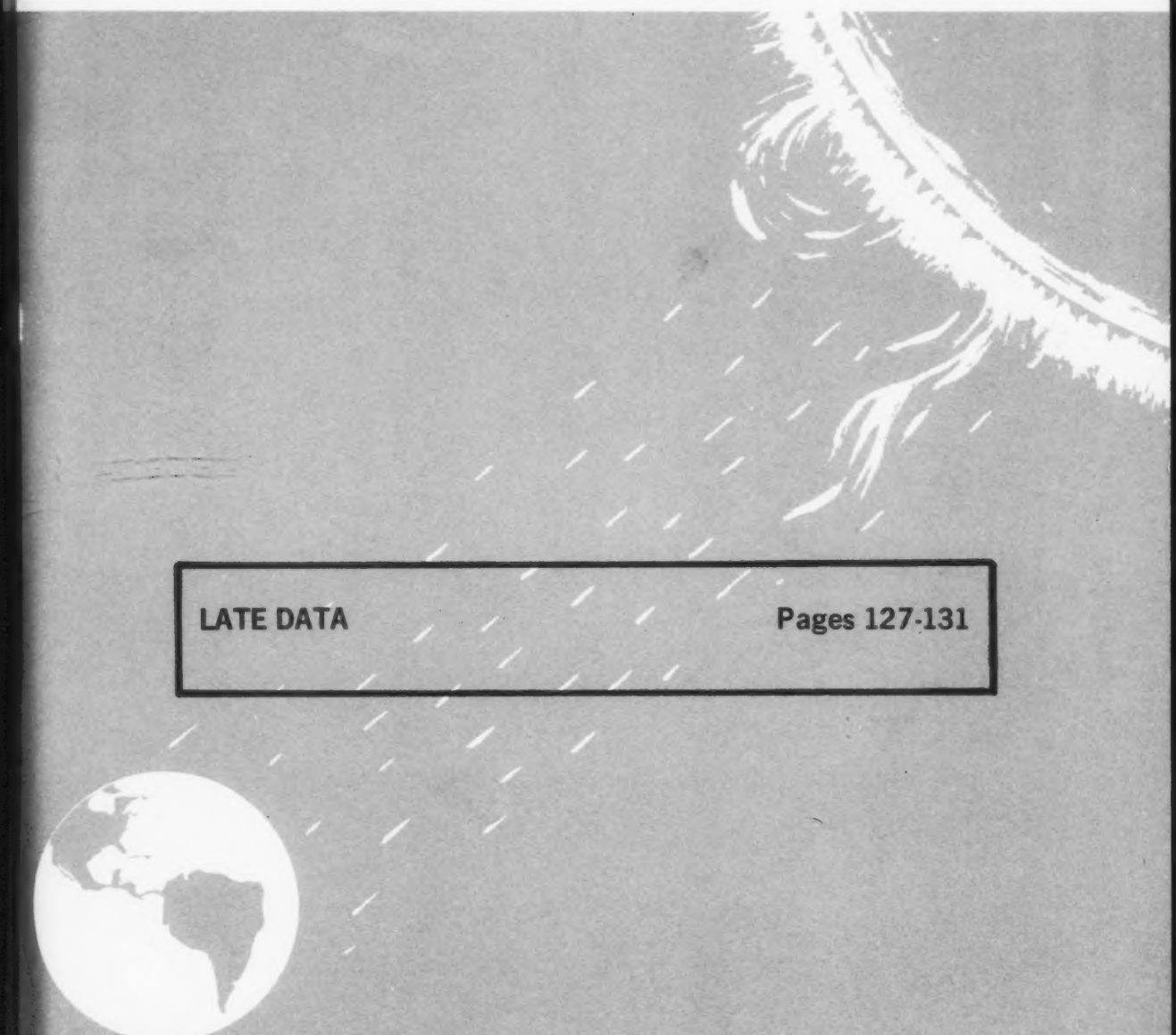
Solar-Geophysical Data prompt reports

Data for June 1983, May 1983 & Late Data

Explanation of Data Reports Issued as Number 462 (Supplement) February 1983



LATE DATA Pages 127-131

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Solar - Geophysical Data

Part I (Prompt Reports)

NO. 467 JULY 1983

DATA FOR
JUNE 1983
MAY 1983

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 467

Issued in two parts

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

CONTENTS

Part I (Prompt Reports)

	PAGE
Index for 1982-1983	2
Data for June 1983	3-41
Data for May 1983	43-125
Late Data Hourly Equatorial Dst Values April 1983 Cosmic Rays Huancayo April 1983; Climax July 1982	127-131

Part II (Comprehensive Reports)

Index for 1982-1983	2
Data for January 1983	3-22
Solar Flare Data November 1980	23-75
Miscellaneous Data Active Regions Meudon 4 September - 29 October 1982 Energetic Solar Particles and Plasma November-December 1980	77-93

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DETAILED 1982-83 COVERAGE PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

CODE	KIND OF OBSERVATION	MAY 82	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN 83	FEB	MAR	APR	MAY	JUN
A.	SOLAR AND INTERPLANETARY PHENOMENA														
A.1	Sunspot Drawings	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	464A 38	465A 42	466A 54	467A 48	
A.2ae	International Provisional Relative Sunspot Numbers Ri	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9	464A 9	465A 9	466A 11	467A 11
A.2c	American Relative Sunspot Numbers Ra	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9	464A 9	465A 9	466A 11	467A 11
A.3a	Mt. Wilson Magnetograms	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	464A 38	465A 42	466A 54	467A 48	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	455A126	457A166	457A112	458A110	459A105	460A 83	461A 88	462A 75	463A 71	464A 66	465A 73	466A 84	467A 79	
A.3c	Kitt Peak Magnetograms	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	464A 38	465A 42	466A 54	467A 48	
A.3d	Mean Solar Magnetic Field (Stanford)	454A 32	455A 56	456A 48	457A 42	458A 38	459A 36	460A 44	461A 52	462A 34	463A 30	464A 32	465A 34	466A 48	467A 40
A.3e	Stanford Magnetograms	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	464A 38	465A 42	466A 54	467A 48	
A.4	H-alpha Filtergrams	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	464A 38	465A 42	466A 54	467A 48	
A.5	Calcium Plage Drawings - Mt. Wilson or Big Bear	454A 44	455A 64	456A 58	457A 50	458A 48									
A.5a	Calcium Plage (Mt. Wilson or Big Bear) and Sunspot Regions	455A126	457A166	457A112	458A110										
A.5b	Mt. Wilson or Big Bear Daily Calcium Plage Indices	455A138	457A176	457A122	458A119										
A.6	H-alpha Synoptic Charts	456A 52	456A 53	457A 46	458A 42	459A 40	460A 47	461A 54	462A 36	463A 45	464A 34	465A 38	466A 50	467A 44	
A.6b	Synoptic Chart and Active Regions (Paris)	462B 92	463B 94	465B118	466B 86	467B 78	467B 79								
A.6c	Stanford Solar Magnetic Field Synoptic Charts	455A 61	456A 55	458A 43	458A 44	460A 48	460A 49	461A 55	462A 38	463A 37	464A 35	465A 39	466A 51	467A 45	
A.6d	Kitt Peak Solar Magnetic Field Synoptic Charts	455A 62	456A 56	457A 48	458A 45	459A 42	460A 50	461A 56	462A 40	463A 38	464A 36	465A 40	466A 52	467A 46	
A.6e	Mass Ejections from the Sun	459B 37	460B113	461B 94	462B 52	463B 43	464B 36	465B 65	466B 82	467B 22					
A.7g	Helium Synoptic Maps (KPNO)	455A 63	456A 56	457A 49	458A 47	459A 43	460A 51	461A 57	462A 42	463A 39	464A 37	465A 41	466A 53	467A 47	
A.7h	Coronal Line Emission (Sac Peak)	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	464A 38	465A 42	466A 54	467A 48	
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9	464A 9	465A 9	466A 11	467A 11
A.8ac	2800 MHz - Daily Values of Adj. Solar Flux (ARO-Ottawa)	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9	464A 9	465A 9	466A 11	467A 11
A.8g	Daily Values of Adjusted Solar Flux (SGMR)	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9	464A 9	465A 9	466A 11	467A 11
A.10a	169 MHz - Interferometric Observations (Nancay)	454A 21	455A 30			458A 25	459A 26	460A 28	461A 32	462A 24	463A 20	464A 20	465A 22	466A 31	467A 26
A.10c	21 cm East-West Solar Scans (Fleurs)	---	455A 33	456A 30	457A 29	458A 28	459A 28	460A 31	461A 35	462A 27	463A 23	464A 23	465A 25	466A 34	467A 29
A.10d	43 cm East-West Solar Scans (Fleurs)	---	---	456A 30	457A 30	458A 29	459A 29	460A 32	461A 36	462A 28	463A 24	464A 24	465A 26	466A 35	467A 30
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	454A 23	455A 32	456A 29	457A 28	458A 27	459A 27	460A 30	461A 34	462A 26	463A 22	464A 22	465A 24	466A 33	467A 28
A.10f	3 cm East-West Solar Scans (Toyokawa)	454A 22	455A 31	456A 28	457A 27	458A 26		460A 29	461A 33	462A 25	463A 21	464A 21	465A 23	466A 32	467A 27
A.11g	Solar X-ray (SMS/GOES) (graphs)	459B 31	461B 98	461B 88	462B 46	463B 38	464B 31	465B 60	466B 76	467B 16					
A.12e	Energetic Solar Particles (IMP H & J) 1980-81							467B 82	467B 88						
A.13d	Solar Wind from IPS Measurements	---	---	---	---	---	---	---	---	---	---	---	---	---	---
A.13e	Solar Plasma (IMP H & J)							467B 87	467B 93						
A.17	Interplanetary Magnetic Field (Pioneer 12)	455A142	---	457A129	458A124	459A130	461A136	462A132							
A.17c	Inferred IP Magnetic Field	454A 30	455A 54	456A 46	457A 40	458A 36	459A 34	460A 42	461A 50	462A 32	463A 28	464A 30	465A 32	466A 46	467A 38
B.	IONOSPHERIC (AND RADIO WAVE PROPAGATION) PHENOMENA														
B.52	Graphs of Transmission Frequency Range	455A158	456A156	457A162	458A148	459A156	460A128	461A132	462A128	463A106	464A 92	465A106	466A120	467A124	
B.53	Quality Figures Based on Frequency Ranges	455A157	456A158	457A161	458A150	459A158	460A130	461A131	462A130	463A106	464A 91	465A108	466A119	467A123	
C.	FLARE-ASSOCIATED EVENTS														
C.1a	Optical Observations Flares	454A 14	455A 16	456A 14	457A 14	458A 14	459A 14	460A 16	461A 16	462A 16	463A 14	464A 14	465A 14	466A 16	467A 14
C.1ba	Optical Observations Flares (Standardized Data) 1980	457B 76	459B 39	460B116	462B 56	463B 46	465B 68	467B 24							
C.1d	Flare Patrol Observations	454A 20	455A 29	456A 27	457A 26	458A 24	459A 25	460A 27	461A 31	462A 23	463A 19	464A 19	465A 21	466A 30	467A 25
C.1d	Flare Patrol Observations 1980	457B115	459B 87	460B151	462B 89	463B 91	465B116	467B 75							
C.1e	Flare Indices (by day) 1980	457B114	459B 86	460B150	462B 88	463B 90	465B115	467B 74							
C.3	Solar Radio Waves - Outstanding Occurrences*	459B 4	460B 4	460B 4	462B 4	463B 4	464B 4	465B 4	466B 4	467B 4					
	Solar Radio Waves - Fixed Frequencies - Selected	454A 24	455A 34	456A 31	457A 31	458A 30	459A 30	460A 33	461A 37	462A 29	463A 25	464A 25	465A 27	466A 36	467A 31
C.4a	Solar Radio Spectral Obs. (Fort Davis)	455A143	456A124	457A130	458A125	459A131	460A106	461A109		---	---	---	---	---	
C.4d	Solar Radio Spectral Obs. (Culgoora)	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	464A 78	465A 89	466A103	467A102	
C.4e	Solar Radio Spectral Obs. (Weissenau)	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	464A 78	465A 89	466A103	467A102	
C.4f	Solar Radio Spectral Obs. (Sagamore Hill)	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	464A 78	465A 89	466A103	467A102	
C.4h	Solar Radio Spectral Obs. (Dwingeloo)														
C.4l	Solar Radio Spectral Obs. (Bleien)							461A109	462A 98	463A 92	464A 78	465A 89		467A102	
C.4k	Solar Radio Spectral Obs. (Learmonth)	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	464A 78	465A 89	466A103	467A102	
C.4i	Solar Radio Spectral Obs. (Palehua)	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	464A 78	465A 89	466A103	467A102	
C.5e	Solar X-ray (SMS/GOES) (graphs)	459B 31	461B 98	461B 88	462B 46	463B 38	464B 31	465B 60	466B 76	467B 16					
C.6	Sudden Ionospheric Disturbances	455A139	456A118	457A123	458A120	459A126	460A102	461A103	462A 92	463A 89	464A 75	465A 86	466A 99	467A 97	
D.	GEOMAGNETIC AND MAGNETOSPHERIC PHENOMENA														
D.1a	Geomagnetic Indices Kp, Kn, Ks, Km, Ap, aa, Cp	455A153	456A149	457A154	459A162	459A150	461A136	461A126	462A121	463A102	464A 87	465A101	466A114	467A118	
D.1ba	27-day Chart of Kp Indices	455A155	456A151	457A156	458A144	459A152	460A125	461A128	462A123	463A104	464A 89	465A103	466A116	467A120	
D.1c	27-day Chart of C9	462A124	462A124	462A124	462A124	462A124	462A124	462A124	462A124						
D.1d	Principal Magnetic Storms	455A156	456A154	457A159	458A147	459A153	460A126	461A129	462A125	463A105	464A 90	465A104	466A117	467A122	
D.1f	Sudden Commencement and Solar Flare Effects		456A155	457A160	459A164	459A155	460A127	461A130	462A127	464A 98	465A112	465A105	466A118		
D.1g	Equatorial Indices Dst	456A160	456A153	457A158	458A146	460A135	462A139	462A140	463A111	464A 97	465A111	466A125	467A131	467A121	
D.1h	Geomagnetic Substorm Log (Boulder)	454A 34	455A 58	456A 49	457A 43	458A 40	459A 38	460A 41	461A 49	462A 31	463A 31	464A 29	465A 35	466A 45	467A 41
F.	COSMIC RAYS														
F.1a	Cosmic Ray Neutron Counts (Deep River)	455A152	456A148	457A153	459A160	459A149	460A119	462A134	462A116	463A101	464A 83	466A128	466A113		
F.1b	Cosmic Ray Neutron Counts (Climax)	457A176	457A178	467A128	462A133	462A133	462A134	462A134	462A116	466A128	466A128	466A128	466A113	467A117	
F.1e	Cosmic Ray Neutron Counts (Alert)	455A152	456A148	457A153	459A160	459A149	460A119	462A134	462A116	463A101	464A 83	466A128	466A113		
F.1h	Cosmic Ray Neutron Counts (Thule)	455A152	456A148	457A153	458A143	459A149	460A119	461A123	462A116	463A101	464A 83	465A 97	466A113	467A117	
F.1i	Cosmic Ray Neutron Counts (Kiel)	457A178	457A178	457A153	458A143	459A149	460A119	461A123	462A116	463A101	464A 83	465A 97	466A113	467A117	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	457A178	457A178	457A153	458A143	459A149	460A119	461A123	465A113	463A101	464A 83	465A 97	466A113	467A117	
F.1l	Cosmic Ray Neutron Counts (Huancayo)	457A178	462A133	462A133	462A133	462A133	462A134	462A134		466A128	466A128	466A128	466A128	467A128	
H.	MISCELLANEOUS														
H.60	IUWDS Alert Decisions	454A 4	455A 5	456A 4	457A 4	458A 4	459A 4	460A 5	461A 4	462A 5	463A 4	464A 4	465A 4	466A 4	467A 4

NOTE: "455A 64" listed under May 1982 means that the sunspot drawings for May 1982 were contained in Solar-Geophysical Data Number 455 - Part I, beginning on page 64; A = Part I, B = Part II; blank = data not yet received; and dashes = no data available.

*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in Solar-Geophysical Data, Number 461, Part II, pages 103-235.

SGD 467 Part I (Prompt)

JUNE 1983 DATA

Contents

	Page
Alert Periods	
IUWDS Alert Periods (Advance and Worldwide)	4-7
Daily Solar Indices	
Relative Sunspot Numbers, R_Z or Ri, and Daily Solar Flux at 2800 MHz (12 Month Tables)	8
Daily Solar Indices (Sunspot Numbers and Solar Fluxes)	9
Observed and Predicted Solar Activity Indices	10
Smoothed Observed and Predicted Sunspot Numbers	11
Graph of Observed and Predicted Sunspot Numbers	12
Graph and Table of Unsmoothed Monthly Mean Sunspot Numbers 1944 to present	13
Solar Flares	
H-alpha Solar Flares	14-24
Intervals of No Flare Patrol Observation	25
Solar Radio Emission	
169 MHz Solar Interferometric Chart - Nancay	26
3 cm East-West Solar Scans - Toyokawa	27
10.7 cm East-West Solar Scans - ARO, Ottawa	28
21 cm East-West Solar Scans - Fleurs	29
43 cm East-West Solar Scans - Fleurs	30
Selected Fixed Frequency Events	31-37
Selected Solar Noise Bursts (None available)	
Solar Wind Measurements	
Interplanetary Scintillations (Data not available -- brush fire destroyed antenna -- expected date to resume operation is late 1983.)	
Inferred Interplanetary Magnetic Field Polarities	38
Mean Solar Magnetic Field	
Stanford Mean Solar Magnetic Field (Chart)	39
Stanford Mean Solar Magnetic Field (Table)	40
Spacecraft Observations	
Pioneer XII (Pioneer Venus) Solar Wind (Data no longer available due to NGDC budget reductions.)	
Geomagnetic	
Boulder Geomagnetic Substorm Log	41

*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in Solar-Geophysical Data, Number 461, Part II, pages 103-235.

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES JUNE 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
152	01	31	086	134	016	S18W71	1	0	0		01	S18W71	E	SOLALERT
						S13W01	0	0	0			S13W01	Q	01/XX
						S10E07	3	0	0			S10E07	Q	MAGALERT
						S11E52	12	1	0			S11E52	A	01/XX
153	02	01	104	128	014	S18W84	0	0	0		02	S18W84	E	SOLALERT
						S12W23	0	0	0			S12W23	Q	02/XX
						S11W15	0	0	0			S11W15	Q	MAGALERT
						S10W06	1	0	0			S10W06	Q	02/XX
						S10E39	9	1	0			S10E39	A	
154	03	02	106	133	009	S10W39	2	0	0		03	S10W39	Q	SOLNIL
						S12W30	0	0	0			S12W30	Q	MAGNIL
						S11W20	3	0	0			S11W20	Q	
						S10E28	3	1	0			S10E28	A	
						S18E31	0	0	0			S18E31	Q	
155	04	03	111	135	009	S09W54	0	0	0		04	S09W54	Q	SOLALERT
						S11W44	0	0	0			S11W44	Q	04/XX
						S09W33	0	0	0			S09W33	Q	MAGQUIET
						S10E14	23	0	0			S10E14	A	
						S11E17	0	0	0			S11E17	Q	
156	05	04	111	145	007	S13W58	1	0	0		05	S13W58	Q	SOLALERT
						S10W46	0	0	0			S10W46	Q	05/XX
						S09E02	15	2	0			S09E02	A	MAGQUIET
						S08E80	1	0	0			S08E80	Q	
157	06	05	112	167	008	S12W72	6	0	0		06	S12W72	Q	MAJOR FLARE
						S09W59	0	0	0			S09W59	Q	ALERT 06/XX
						S09W11	19	3	0			S09W11	P	31109
						S09E67	5	0	0			S09E67	E	MAGALERT
														MINOR 07/09
														RECURRENCE
158	07	06	201	148	010	S13W87	4	0	0	PRESTO XRAY EVENT X1/1B	07	S13W87	Q	MAJOR FLARE
						S09W73	0	0	0	S11W15 06/1331Z DURATION 55		S09W73	Q	ALERT 07/XX
						S09W24	13	4	1	MINUTES.TENFLARE 270 FLUX		S09W24	P	32409
						S19W19	4	0	0	UNITS DURATION 12 MINUTES.		S19W19	Q	MAGALERT
						S10E55	2	0	0			S10E55	E	07/09
						S12E75	0	0	0			S12E75	Q	
159	08	07	178	174	008	S09W90	0	0	0		08	S09W90	Q	MAJOR FLARE
						S09W37	13	1	0			S09W37	P	ALERT 08/12
						S19W33	2	0	0			S19W33	Q	33409
						S09E43	2	0	0			S09E43	E	MAGALERT
						S11E64	1	0	0			S11E64	Q	08/09
160	09	08	151	169	010	S09W50	6	1	0		09	S09W50	Q	SOLALERT
						S18W48	0	0	0			S18W48	Q	09/12
						S09E30	2	0	0			S09E30	E	MAGNIL
						S12E51	0	0	0			S12E51	Q	
161	10	09	147	157	018	S09W63	5	0	0		10	S09W63	E	SOLALERT
						S18W61	3	0	0			S18W61	Q	10/12
						S15W11	0	0	0			S15W11	Q	MAGQUIET
						S10E17	9	1	0			S10E17	E	
						S12E38	1	0	0			S12E38	Q	
162	11	10	133	154	022	S09W76	2	0	0	PRESTO MAGSTORM 10/0454Z	11	S09W76	E	SOLALERT
						S19W72	1	0	0			S19W72	Q	11/12
						S15W25	0	0	0			S15W25	Q	MAGQUIET
						S10E04	8	1	0			S10E04	E	
						S10E23	0	0	0			S10E23	Q	
163	12	11	101	135	015	S09W85	0	0	0		12	S09W85	E	SOLNIL
						S09W09	10	0	0			S09W09	E	MAGQUIET

ALERT PERIODS
INTERNATION URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES JUNE 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S13E09	1	0	0			S13E09	Q	
164	13	12	105	131	018	S09W91	0	0	0		13	S09W91	Q	SOLQUIET
						S09W24	7	0	0			S09W24	E	MAGALERT
						S10W04	0	0	0			S10W04	Q	13/XX
						S27E66	0	0	0			S27E66	Q	
165	14	13	126	124	065	S09W36	15	0	0	PRESTO MAGSTORM 13/0119Z	14	S09W36	E	SOLQUIET
						S10W18	0	0	0			S10W18	Q	MAGNIL
						N12E07	0	0	0			N12E07	Q	
						S28E54	1	0	0			S28E54	Q	
						S07E62	17	1	2			S07E62	Q	
						S12E75	0	0	0			S12E75	Q	
						N18E76	0	0	0			N18E76	Q	
166	15	14	136	123	018	S09W49	5	0	0		15	S09W49	E	SOLQUIET
						S11W31	3	0	0			S11W31	Q	MAGQUIET
						S09W11	0	0	0			S09W11	Q	
						N11W08	0	0	0			N11W08	Q	
						S27E41	0	0	0			S27E41	Q	
						S07E50	3	0	0			S07E50	Q	
						N13E62	1	0	0			N13E62	Q	
						N18E62	2	0	0			N18E62	Q	
167	16	15	121	125	014	S09W66	0	0	0	PRESTO PROTON EVENT BEGAN	16	S09W66	E	SOLQUIET
						S13W54	1	0	0	15/0740Z 19 PROTONS/CM2/SEC/STER		S13W54	Q	MAGQUIET
						S10W42	0	0	0	AT >=10MEV AT 15/2130Z.EVENT		S10W42	Q	
						N11W22	0	0	0	STILL IN PROGRESS.		N11W22	Q	
						S27E28	0	0	0			S27E28	Q	
						S10E35	3	0	0			S10E35	Q	
						N18E48	0	0	0			N18E48	Q	
						N13E50	1	0	0			N13E50	Q	
168	17	16	123	127	011	S09W80	0	0	0		17	S09W80	Q	SOLQUIET
						S10W54	0	0	0			S10W54	Q	MAGQUIET
						N11W34	0	0	0			N11W34	Q	
						S27E16	0	0	0			S27E16	Q	
						S07E23	0	0	0			S07E23	Q	
						N18E34	3	0	0			N18E34	Q	
						N12E37	2	0	0			N12E37	Q	
						S13E42	8	1	0			S13E42	E	
169	18	17	121	127	014	S11W52	0	0	0		18	S11W52	Q	SOLQUIET
						S27E03	0	0	0			S27E03	Q	MAGALERT
						S07E09	0	0	0			S07E09	Q	MINOR 18/20
						N17E19	4	0	0			N17E19	Q	
						N13E23	3	0	0			N13E23	Q	
						S13E29	3	1	0			S13E29	E	
170	19	18	122	126	028	S27W10	0	0	0		19	S27W10	Q	SOLQUIET
						S07W04	1	0	0			S07W04	Q	MAGALERT
						N17E06	0	0	0			N17E06	Q	19/20
						N13E11	0	0	0			N13E11	Q	
						S12E14	3	0	0			S12E14	E	
						S05E52	1	0	0			S05E52	Q	
						N15E53	0	0	0			N15E53	Q	
171	20	19	153	130	020	S26W23	0	0	0		20	S26W23	Q	SOLQUIET
						S07W19	3	0	0			S07W19	Q	MAGALERT
						N17W07	3	0	0			N17W07	Q	20/XX
						N04W01	0	0	0			N04W01	Q	
						S12E01	6	1	0			S12E01	E	
						N14E35	2	0	0			N14E35	Q	
						S05E40	0	0	0			S05E40	Q	
						N17E53	12	0	0			N17E53	E	
						N18E75	2	0	0			N18E75	Q	
172	21	20	169	133	017	S27W35	0	0	0		21	S27W35	Q	SOLQUIET
						S06W29	0	0	0			S06W29	Q	MAGNIL

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES JUNE 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						N18W20	2	0	0			N18W20	Q	
						N15W14	0	0	0			N15W14	Q	
						S12W13	5	0	0			S12W13	E	
						N14E22	0	0	0			N14E22	Q	
						N18E38	2	0	0			N18E38	Q	
						N04E39	0	0	0			N04E39	Q	
						N18E57	2	0	0			N18E57	Q	
						S08E73	4	0	0			S08E73	Q	
173	22	21	182	139	017	S27W48	0	0	0		22	S27W48	Q	SOLQUIET
						N14W28	0	0	0			N14W28	Q	MAGQUIET
						N18W28	0	0	0			N18W28	Q	
						S12W27	1	0	0			S12W27	Q	
						N13E09	1	0	0			N13E09	Q	
						N17E26	10	0	0			N17E26	E	
						N18E41	1	0	0			N18E41	Q	
						N18E48	0	0	0			N18E48	Q	
174	23	22	202	144	018	N14W42	1	0	0		23	N14W42	Q	SOLQUIET
						N18W42	0	0	0			N18W42	Q	MAGQUIET
						S12W41	0	0	0			S12W41	Q	
						N13W05	2	0	0			N13W05	Q	
						S17W05	0	0	0			S17W05	Q	
						N17E11	7	0	0			N17E11	E	
						N18E27	1	0	0			N18E27	Q	
						N17E36	0	0	0			N17E36	Q	
						S09E46	5	0	0			S09E46	E	
175	24	23	215	145	014	N14W55	0	0	0		24	N14W55	Q	SOLQUIET
						S12W54	3	0	0			S12W54	Q	MAGQUIET
						N12W18	0	0	0			N12W18	Q	
						S16W16	0	0	0			S16W16	Q	
						N17W02	1	0	0			N17W02	E	
						N17E12	0	0	0			N17E12	Q	
						N18E21	0	0	0			N18E21	Q	
						N12E22	0	0	0			N12E22	Q	
						S09E33	3	0	0			S09E33	E	
						N04E64	1	0	0			N04E64	Q	
176	25	24	212	139	010	N14W68	0	0	0		25	N14W68	Q	SOLQUIET
						S12W67	3	0	0			S12W67	E	MAGQUIET
						S04W53	0	0	0			S04W53	Q	
						S09W42	0	0	0			S09W42	Q	
						N13W31	0	0	0			N13W31	E	
						N17W16	5	0	0			N17W16	E	
						N16W01	0	0	0			N16W01	Q	
						N19E05	0	0	0			N19E05	Q	
						N13E09	0	0	0			N13E09	Q	
						S09E19	3	0	0			S09E19	E	
						N04E52	0	0	0			N04E52	Q	
177	26	25	217	137	008	N13W83	0	0	0		26	N13W83	Q	SOLALERT
						S13W82	0	0	0			S13W82	Q	26/XX
						S04W66	0	0	0			S04W66	Q	MAGQUIET
						S07W57	0	0	0			S07W57	Q	
						N13W45	3	0	0			N13W45	E	
						N16W30	1	0	0			N16W30	Q	
						N17W16	2	0	0			N17W16	Q	
						S18W13	0	0	0			S18W13	Q	
						N19W09	0	0	0			N19W09	Q	
						N11E00	0	0	0			N11E00	Q	
						S08E04	2	0	0			S08E04	E	
						S12E25	0	0	0			S12E25	Q	
						N03E37	0	0	0			N03E37	Q	
						S09E73	1	1	0			S09E73	A	
178	27	26	162	142	014	S04W81	0	0	0	PRESTO TENFLARE 380 FLUX UNITS	27	S04W81	Q	SOLALERT
						N13W59	1	0	0	0431Z DURATION 10 MINUTES.		N13W59	Q	27/XX
						N16W44	0	0	0	XRAY EVENT M7/2B S13E76 1407Z		N16W44	Q	MAGQUIET

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES JUNE 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						N17W32	0	0	0	DURATION 65 MINUTES. TENFLARE		N17W32	Q	
						N18W26	0	0	0	420 FLUX UNITS 1406Z DURATION		N18W26	Q	
						S18W26	0	0	0	23 MINUTES.		S18W26	Q	
						N11W13	0	0	0			N11W13	Q	
						S08W10	2	0	0			S08W10	Q	
						S12E08	1	0	0			S12E08	Q	
						N04E24	0	0	0			N04E24	Q	
						S09E65	4	2	0			S09E65	P	
179	28	27	136	133	010	N13W73	1	0	0		28	N13W73	Q	SOLALERT
						N16W57	2	0	0			N16W57	E	28/XX
						N06W35	0	0	0			N06W35	Q	MAGQUIET
						N11W27	1	0	0			N11W27	Q	
						S10W21	3	0	0			S10W21	Q	
						N03E10	0	0	0			N03E10	Q	
						S09E52	4	0	0			S09E52	A	
						S18E75	0	0	0			S18E75	Q	
180	29	28	121	129	010	N13W86	1	0	0		29	N13W86	Q	SOLALERT
						N17W70	8	0	0			N17W70	Q	29/XX
						N11W41	1	0	0			N11W41	Q	MAGQUIET
						S11W34	0	0	0			S11W34	Q	
						S09E39	2	1	0			S09E39	A	
						S18E58	6	0	0			S18E58	Q	
181	30	29	114	125	015	N17W82	1	0	0		30	N17W82	Q	SOLNIL
						N19W65	1	0	0			N19W65	Q	MAGQUIET
						N11W54	9	0	0			N11W54	E	
						S09W49	0	0	0			S09W49	Q	
						S13E13	0	0	0			S13E13	Q	
						S08E26	3	1	0			S08E26	E	
						S18E45	5	0	0			S18E45	E	
182	01	30	113	123	006	N16W97	0	0	0			N16W97	Q	SOLQUIET
						N11W68	5	0	0			N11W68	Q	MAGQUIET
						N26W09	0	0	0			N26W09	Q	
						S12W01	0	0	0			S12W01	Q	
						S08E13	2	0	0			S08E13	E	
						S18E31	0	0	0			S18E31	Q	

NO=MESSAGE SERIAL NUMBER, DI=DATE OF ISSUE, DO=DATE OF OBSERVATION, WOLF=WOLF NUMBER, 10CM=10CM SOLAR FLUX, A=A INDEX, LOC=LOCATION IN LAT-LONG, TOT=TOTAL, M=NUMBER OF M FLARES, X= NUMBER OF X FLARES, DA=DATE OF FORECAST, DE=DESCRIPTION, Q=QUIET, E=ERUPTIVE, A=ACTIVE, P=PROTON.

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
JUNE 1983
PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

06 JUNE 1983 BOULDER 06/1440Z XRAY EVENT X1/1B S11W15 06/1331Z DURATION 52 MINUTES
06 JUNE 1983 BOULDER 06/1440Z TENFLARE 270 FLUX UNITS 06/1337Z DURATION 12 MINUTES
11 JUNE 1983 KAKIOKA 11/0110Z MAGSTORM 10/0454Z
13 JUNE 1983 KAKIOKA 13/0510Z MAGSTORM 13/0119Z
13 JUNE 1983 BOULDER 13/0615Z A STRONG MAGSTORM IN PROGRESS 13/0600Z
16 JUNE 1983 BOULDER 16/0231Z PROTON EVENT BEGAN 15/0740Z 19 PROTONS/CM2/SEC/STER AT >=10MEV AT 15/2130Z
26 JUNE 1983 TOYOKAWA 26/0525Z TENFLARE 230 FLUX UNITS 26/0430Z DURATION 15 MINUTES
26 JUNE 1983 BOULDER 26/0620Z TENFLARE 380 FLUX UNITS 26/0431Z DURATION 10 MINUTES
26 JUNE 1983 BOULDER 26/1539Z XRAY EVENT M7/2B S13E76 26/1407Z DURATION 65 MINUTES
26 JUNE 1983 BOULDER 26/1539Z TENFLARE 420 FLUX UNITS 26/1406Z DURATION 23 MINUTES

INTERNATIONAL* (R_I) RELATIVE SUNSPOT NUMBERS

Day	1982 Final Jul	Aug	Sep	Oct	Nov	Dec	1983 Final Jan	Feb	Mar	1983 Prov Apr	May	Jun
01	50	55	115	132	80	88	60	103	109	56	114	61
02	41	68	124	164	88	125	65	85	93	70	104	72
03	33	68	146	143	75	132	55	88	86	62	94	73
04	42	81	176	120	100	137	63	94	93	53	85	68
05	39	97	160	109	100	137	82	82	113	36	95	77
06	32	128	141	55	76	174	103	71	88	49	88	85
07	33	144	117	54	98	175	109	72	77	61	92	104
08	42	150	115	55	86	184	126	63	68	55	93	92
09	61	161	94	54	102	152	100	39	74	59	110	100
10	110	155	81	88	109	166	83	26	55	64	121	86
11	146	157	86	87	112	171	90	21	49	69	101	73
12	187	138	78	92	83	194	77	18	32	61	114	66
13	219	113	81	98	98	172	89	11	12	64	132	67
14	222	100	104	88	116	160	92	10	24	64	125	88
15	246	100	129	71	116	166	77	24	44	53	130	92
16	263	86	133	65	100	140	89	17	63	63	99	84
17	272	93	127	54	108	118	102	22	74	63	93	79
18	270	105	107	33	117	102	86	32	88	75	99	78
19	234	97	117	56	122	79	93	33	82	103	88	103
20	192	77	104	70	118	63	81	32	82	90	105	117
21	138	79	102	95	131	87	74	39	87	87	110	117
22	99	90	95	100	141	88	73	33	70	83	104	136
23	74	71	97	128	120	96	59	40	66	97	96	143
24	27	79	109	145	96	100	58	50	60	104	111	122
25	25	101	118	142	75	122	75	67	48	118	106	122
26	29	98	138	135	73	116	77	70	70	106	115	110
27	22	115	133	131	71	126	75	88	72	131	90	92
28	19	132	132	103	74	120	89	98	48	136	68	83
29	23	134	144	101	82	98	99		44	122	88	68
30	38	144	160	96	76	79	101		54	137	75	59
31	60	120		73		69	110		37		60	
Mean	106	108	119	95	98	127	84	51	66	80	100	91

*International sunspot numbers have replaced the Zurich values since January 1981.
The yearly mean sunspot number equaled 115.9 in 1982.

DAILY SOLAR FLUX AT 2800 MHz (10.7 CM) ADJUSTED TO 1 AU

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Jul 82	Aug	Sep	Oct	Nov	Dec	Jan 83	Feb	Mar	Apr	May	Jun
01	106.5	123.4	184.3*	205.2	159.6	167.8	131.4	162.6	145.4	100.7	142.0	131.3
02	106.9	138.2*	168.7*	209.4*	154.5	166.3	131.4	156.5*	138.7	101.2	145.4	139.0*
03	109.4	153.5*	171.0*	197.0A	147.4	181.6	136.2	145.5	141.0	101.4*	139.4	139.3
04	111.5	167.3	188.1*	182.3*	143.4	194.5	138.2	156.8	143.7	100.8	132.9	149.2
05	114.1	180.9	179.4	163.9	136.4	195.9*	154.6	154.3*	146.6	98.7	130.8	167.9*
06	121.3	201.2	172.1	151.9	142.1	210.4	161.6*	152.3	139.3	99.5	125.8*	191.4
07	128.2*	219.6	176.8	140.2	142.3	244.3	163.3	142.2	132.3	102.2	117.4	179.5
08	150.3*	217.5*	178.5	136.9	144.8	241.7*	155.9*	133.3	128.1	104.1*	127.0	173.7
09	176.6*	212.5	179.2	137.4	147.5A	258.6	150.0	121.9	122.0	106.1	132.2*	159.5*
10	203.5*	209.5	165.6	134.8	152.9	273.5*	144.2	113.4	115.1	103.3	143.5*	150.5*
11	226.4*	205.0*	158.3	137.3	154.1	259.3*	139.3	106.9	103.0	104.4	159.3*	139.2
12	239.7*	195.2*	152.5*	136.4	164.9	251.1	135.7	99.8	99.5*	107.7	160.4*	134.5
13	252.6*	182.9*	151.3	143.9	161.2	239.0	135.1	95.5	95.8	109.1	154.4	128.3
14	269.2*	176.8	147.4	140.4	159.5	235.6	137.2	91.7	95.9	111.7	153.5*	126.4*
15	274.0	173.0	149.0*	134.1	157.0*	221.9	141.0	88.5	100.6*	103.6	145.7	128.7
16	269.4*	161.4	147.3	129.8	163.3	213.2*	140.2	89.7	107.8	105.1	134.0*	128.8*
17	273.3	165.1	147.0*	130.1	158.0	200.5*	138.0	91.9	114.5	113.5	131.7*	130.7
18	247.2*	166.4*	143.2	132.8	170.2*	186.5	134.8	97.2	117.7	120.7	137.6	130.5
19	234.7	159.2	142.6*	136.7	182.3	176.8*	127.4	94.6	118.3	125.0	146.8	133.8
20	196.5	144.7	146.9	146.2*	189.2	159.2	120.5	97.3	120.7	127.4	151.8*	136.9
21	173.7*	138.6	145.4	161.4	200.9	149.4	116.1	101.6	118.8*	133.3	149.8	144.0
22	149.5*	138.8	146.2	168.2	231.1*	150.1*	113.5	106.2	117.2	139.7	152.0	148.9
23	128.5	141.2	152.6*	177.3*	196.1	157.0*	115.4	112.0	116.2	140.4	143.7	149.8
24	117.8	142.9	165.4*	190.9	172.9	166.8	114.1	114.3	117.1	142.7	140.5	141.7*
25	108.2	158.5	170.3	196.8*	164.8	170.6	122.7	120.3	114.2*	145.6	138.8	141.4
26	102.1	166.4	187.3	193.5	168.8*	168.7	132.6	126.2	114.7*	146.8	132.3	144.1A
27	97.8	180.4	191.4	187.7*	158.6	166.2	133.6	138.3	109.6	149.6	130.5	137.1
28	96.4	181.4	196.9	181.4	160.3*	157.0	140.6	137.6	104.9	156.4*	133.1	129.4*
29	97.5	183.4	204.6	170.9*	161.4	147.3	148.9		98.9	148.4	139.0	128.9
30	112.4	174.5	202.4	166.7	164.8	142.5	154.8		100.7	147.2	135.4*	126.8
31	114.4	175.0*		165.1		134.4	161.9		98.7		138.0*	
Mean	164.8	172.1	167.1	160.9	163.7	193.2	137.7	119.6	117.3	119.9	140.2	143.0

A = interpolated value.
*Adjusted for burst in progress at time of measurement.
The yearly mean 2800 MHz flux adjusted to 1 AU equaled 175.1 in 1982.

DAILY SOLAR INDICES

JUNE 1983

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers R_I	Sunspot Numbers R_A	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit: SGMR (15400)	SGMR (8800)	SGMR (4995)	Ottawa (2800)	SGMR (2695)	SGMR (1415)	SGMR (606)	SGMR (410)	SGMR (245)
01	152	24	61	63	127.6	570	268	161	131.3	116	114	84	31	16
02	153	25	72	72	135.1*	579	281	172	139.0*	134	119	86	34	18
03	154	26	73	79	135.4	575	285	176	139.3	134	116	80	33	18
04	155	27	68	74	145.0	542	291	190	149.2	136	116	86	35	18
05	156	1	77	79	163.0*	603	340	222	167.9*	147	134	94	37	21
06	157	2	85	90	185.8	626	348	243	191.4	179	148	105	61	80
07	158	3	104	107	174.3	620	332	244	179.5	187	139	95	37	25
08	159	4	92	107	168.6	612	318	215	173.7	158	136	83	34	41
09	160	5	100	95	154.7*	597	307	202	159.5*	158	122	88	38	38
10	161	6	86	89	146.0*	603	290	190	150.5*	144	134	92	40	42
11	162	7	73	80	135.0	575	272	168	139.2	116	115	88	34	18
12	163	8	66	78	130.5	568	262	159	134.5	130	---	92	34	17
13	164	9	67	87	124.3	558	246	150	128.3	121	114	79	32	18
14	165	10	88	92	122.5*	541	263	150	126.4*	121	110	87	39	19
15	166	11	92	92	124.7	568	261	150	128.7	118	113	77	32	19
16	167	12	84	87	124.8*	562	273	154	128.8*	124	114	84	34	16
17	168	13	79	89	126.6	560	263	152	130.7	132	111	85	34	17
18	169	14	78	87	126.3	565	269	151	130.5	121	115	85	35	18
19	170	15	103	113	129.5	560	266	152	133.8	129	118	84	36	17
20	171	16	117	118	132.5	569	266	154	136.9	122	122	87	36	17
21	172	17	117	126	139.4	566	276	163	144.0	133	128	95	37	19
22	173	18	136	140	144.1	571	268	165	148.9	134	127	79	34	16
23	174	19	143	145	145.0	573	271	164	149.8	135	131	100	45	23
24	175	20	122	120	137.2*	561	268	159	141.7*	123	126	92	44	42
25	176	21	122	131	136.9	489	274	163	141.4	139	122	104	42	22
26	177	22	110	103	139.4A	580	288	167	144.1A	129	127	86	36	17
27	178	23	92	100	132.6	565	268	160	137.1	123	118	86	34	16
28	179	24	83	82	125.1*	507	271	157	129.4*	121	114	75	30	15
29	180	25	68	74	124.7	561	272	154	128.9	119	113	82	35	19
30	181	26	59	69	122.6	568	266	152	126.8	113	109	82	34	16
Mean			91	96	138.6	570	281	171	143.0	133	122	87	36	23

*Adjusted for burst in progress at time of measurement.
The letter "A" following an entry means an interpolated value.

Numbers in parentheses in the column headings denote frequencies in MHz.
Equipment problems produced the gaps shown here in the Air Weather Service's Sagamore Hill observations.
The International and American sunspot numbers represent provisional values.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

JUNE 1983

Date	RELATIVE SUNSPOT NUMBERS: Zurich or Internat (R_I) Monthly Mean	Zurich or Internat (R_I) Smoothed	American (R_A) Monthly Mean	American (R_A) Smoothed	Derived (R_S) Monthly Mean	Derived (R_S) Smoothed	2800 MHz RADIO FLUX Adjusted to 1 AU (S_a) Monthly Mean	2800 MHz RADIO FLUX Adjusted to 1 AU (S_a) Smoothed
Apr 79	101.5	141	95.8	133	127.0	133	175.0	180
May	134.4	147	121.8	139	120.4	139	168.9	186
Jun	149.5	153	136.4	144	138.9	144	186.0	191
Jul	159.4	155	140.5	145	123.1	145	171.4	192
Aug	142.2	155	125.1	144	129.2	145	177.0	192
Sep	188.4	156	184.0	143	156.5	144	202.3	191
Oct	186.2	158	178.2	144	171.7	145	216.4	192
Nov	183.3	162	176.5	149	182.9	149	226.8	196
Dec	176.3	164	157.6	152	151.0	152	197.2	199
Jan 80	159.6	164	145.3	153	153.6	154	199.6	200
Feb	155.0	163	133.9	154	148.7	155	195.1	200
Mar	126.2	161	107.9	153	117.8	153	166.5	200
Apr	164.1	159	138.5	151	164.0	152	209.3	198
May	179.7	156	172.3	149	185.4	151	229.1	197
Jun	157.3	155	153.6	149	153.2	151	199.3	198
Jul	136.3	153	136.0	144	144.1	151	190.8	197
Aug	135.4	150	133.0	144	121.9	150	170.3	196
Sep	155.0	150	150.0	146	138.8	152	185.9	198
Oct	164.7	150	160.8	149	157.1	154	202.9	200
Nov	147.9	148	149.9	149	168.5	153	213.4	199
Dec	174.4	143	167.5	145	174.3	150	218.8	196
Jan 81	114.0	140	115.4	144	120.5	149	169.0	195
Feb	141.3	142	143.7	146	153.5	152	199.5	198
Mar	135.5	143	149.2	149	157.5	156	203.2	202
Apr	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142	157.0	146	178.6	156	222.8	202
Nov	137.5	139	138.8	142	157.6	151	203.3	197
Dec	150.1	138	145.0	140	155.5	149	201.4	195
Jan 82	111.1	137	110.4	139	124.2	148	173.4	195
Feb	163.6	133	161.0	134	163.6	144	208.9	191
Mar	153.8	129	155.5	130	163.0	139	208.3	186
Apr	122.0	124	121.9	124	113.9	134	162.9	182
May	82.2	120	82.6	120	97.7	129	147.9	177
Jun	110.4	117	113.5	118	129.6	127	177.4	175
Jul	106.1	115	113.3	117	116.0	125	164.8	174
Aug	107.6	109	110.5	111	123.9	120	172.1	168
Sep	118.8	101	117.8	103	118.5	112	167.1	161
Oct	94.7	96*	90.1	97	111.8	106	160.9	155
Nov	98.1	95*	93.2	95	114.8	103	163.7	153
Dec	127.0	94*	145.0	91	146.7	101	193.2	151
Jan 83	84.3	**90(4)***	82.8	**86**	86.7	**96**	137.7	---
Feb	51.0	**87(6)***	53.4	**83**	67.2	**93**	119.6	---
Mar	66.5	**85(8)***	60.5	**82**	64.7	**91**	117.3	---
Apr	79.7†	**82(11)***	74.5	**79**	67.5	**88**	119.9	---
May	100.2†	**79(14)***	97.7	**76**	86.1	**84**	137.1	---
Jun	90.6†	**76(17)***	---	**73**	92.4	**81**	143.0	---
Jul	---	**74(18)***	---	**71**	---	**79**	---	---
Aug	---	**73(21)***	---	**70**	---	**78**	---	---
Sep	---	**72(23)***	---	**69**	---	**77**	---	---
Oct	---	**72(24)***	---	**69**	---	**78**	---	---
Nov	---	**73(24)***	---	**69**	---	**78**	---	---
Dec	---	**72(25)***	---	**68**	---	**78**	---	---

*An asterisk marks either a value of the observed 12-month running mean or of a predicted 12-month average that is based in part on preliminary observations.

Boldface entries indicate predicted values and parentheses enclose the absolute value of the 90% confidence limits. All tabulated entries of the American sunspot number are final values. The two columns headed "Derived" represent a sunspot number computed from a linear regression equation between the 2800 MHz solar flux (adjusted to 1 astronomical unit) and the Zurich sunspot number.

†International numbers replaced the Zurich values in January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

JUNE 1983

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	119	117	115	109	101	96	95	95
1983	90	87	85	82	79	76	74	73	72	72	73	72
	(4)	(6)	(8)	(11)	(14)	(17)	(18)	(21)	(23)	(24)	(24)	(25)
1984	71	68	64	60	58	58	57	55	53	50	48	45
	(25)	(25)	(25)	(27)	(28)	(29)	(29)	(29)	(29)	(28)	(27)	(27)
1985	44	43	43	43	41	39	37	36	35	34	34	33
	(27)	(26)	(25)	(25)	(25)	(24)	(23)	(22)	(22)	(22)	(23)	(23)
1986	32	31	29	27	25	22	20	18	18	17	17	16
	(24)	(25)	(24)	(24)	(23)	(22)	(21)	(21)	(19)	(18)	(17)	(15)

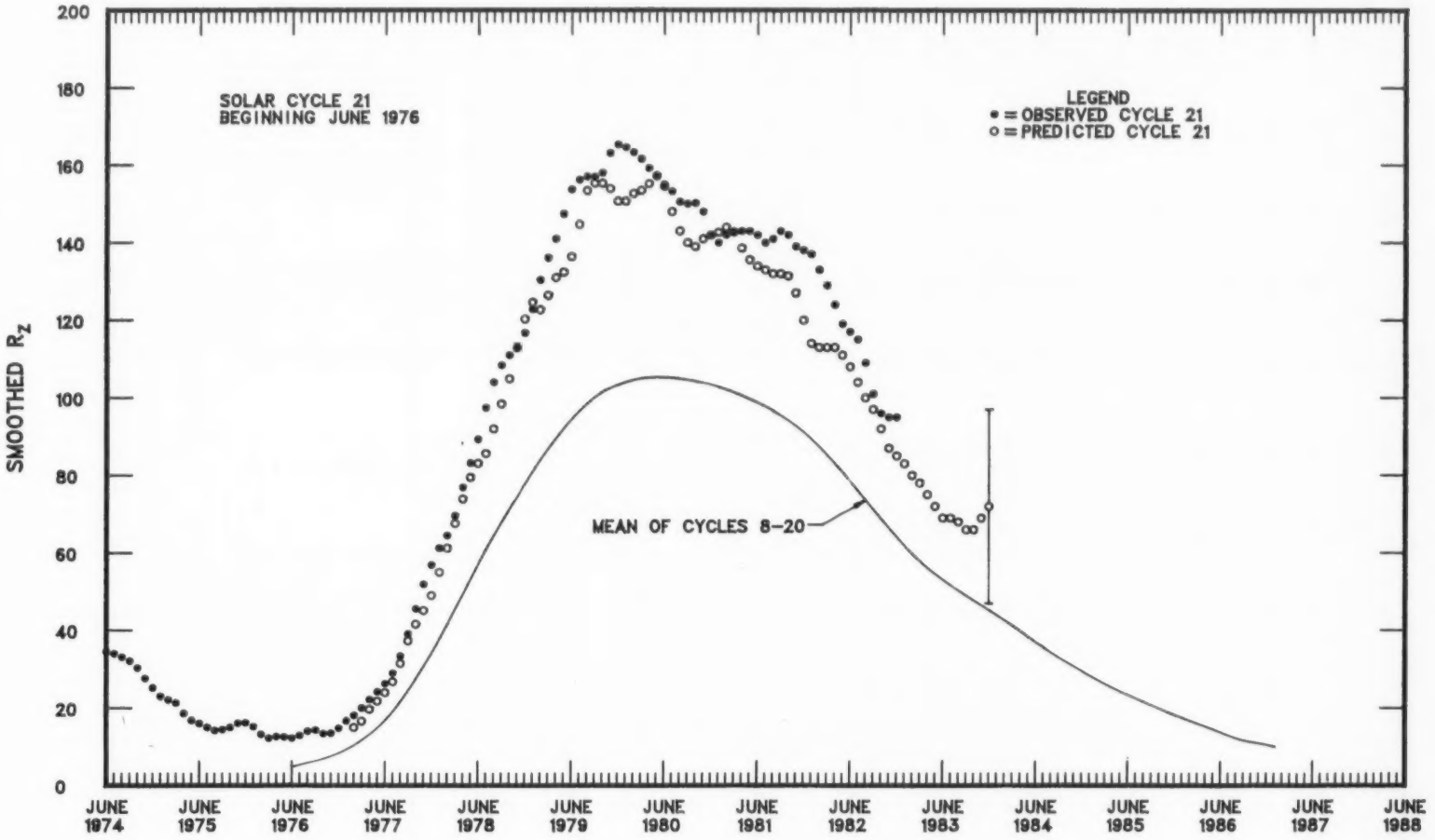
For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through March 1983, and on provisional international numbers thereafter. Some table entries after the June 1976 value will change slightly, when we incorporate final data for 1983.

The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 9 in the February 1983 edition of the "Solar-Geophysical Data" supplement.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval. Consider, for example, the December 1983 prediction tabulated above. There exists a 90% chance that in December 1983 the actual smoothed sunspot number will fall somewhere between 47 and 97.

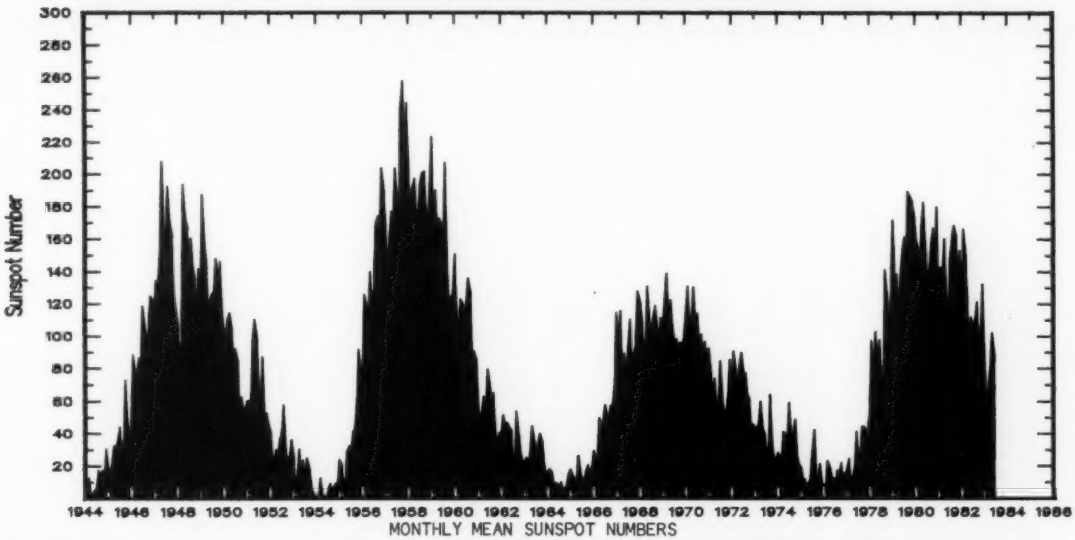
THE MCNISH-LINCOLN PREDICTION METHOD GENERATES USEFUL ESTIMATES OF SMOOTHED SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. In "Solar-Geophysical Data," issues 390-401, we based the current cycle predictions on March 1976 as the end of cycle 20 and the onset of the new cycle 21. Later studies, including one published by M. Waldmeier, showed that June 1976 was more appropriately the minimum epoch. We therefore generated this table using the June 1976 date.

*MAXIMUM OF SUNSPOT CYCLE 21. The maximum smoothed sunspot number occurred in December 1979.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – June 1983



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.9	63.6	37.7	32.6	40.0
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0
1983	84.3	51.0	66.5	79.7*	100.2*	90.6*						

*Provisional

H - ALPHA SOLAR FLARES

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	01	0334E	0343	0410	S11	E54	4201	06	5.2	36D	SN		3	C		21		
PURP	01	0357	0434	0547	S13	E51		06	5.0	110	2F			C	0434	650	10.9	
PEKG	01	0402	0403	0415	S07	E52		06	5.1	13	SF			C	0403	21	.4	D
LEAR	01	0435E	0449	0453D	S11	E44	4201	06	4.5	18D	SN		1	C		24		F
PEKG	01	0503E	0503	0503D	S12	E50		06	5.0	18D	SF			P	0503	34	.5	E
PEKG	01	0516E	0516	0518	S12	E50		06	5.0	2D	SF			P	0516	42	.7	E
PEKG	01	0645	0703	0725	S11	E54		06	5.3	40	SF			C	0703	29	.5	E
CATA	01	0805	0815	0845D	S12	E03		06	1.6	40D	S		2	P	0815	56	.6	
PEKG	01	0830	0837	0850	S11	E04		06	1.7	20	SF			C	0837	42	.4	E
CATA	01	1120	1120	1125	S12	E02		06	1.6	5	S		1	C	1120	56	.6	
RAMY	01	1122E	1122	1127	S12	E52	4201	06	5.4	5D	SN		3	C		48		
RAMY	01	1122E	1122	1134	S11	E03	4196	06	1.7	12D	SF		3	C		62		
RAMY	01	1248	1252	1340	S07	E46	4201	06	5.0	52	SB		3	C		76		FE
HOLL	01	1251	1252	1337	S07	E46	4201	06	5.0	46	SB		2	C		59		E
HOLL	01	1347	1348	1358	N12	W90	4197	05	25.8	11	SF		2	C				
RAMY	01	1355	1402	1428	S09	E45	4201	06	5.0	33	SF		3	C		29		
RAMY	01	1508	1516	1524	S07	E46	4201	06	5.1	16	SF		3	C		21		
RAMY	01	1508	1526	1537	S07	E45	4201	06	5.0	29	SF		3	C		24		
HOLL	01	1508	1510	1513	S07	E46	4201	06	5.1	5	SF		3	C		25		
RAMY	01	1545	1547	1554	N12	W90		05	25.9	9	SN		3	C		22		
HOLL	01	1546	1548	1552	N13	W84	4197	05	26.3	6	SB		3	C		20		
HOLL	01	1837	1837	1916	S10	E46	4201	06	5.2	39	SF		3	C		38		K
HOLL	01	1837	1850	1916	S10	E46	4201	06	5.2	39	SN		3	C		39		K
HOLL	01	2100	2101	2104	S13	E47	4201	06	5.4	4	SF		3	C		33		
HOLL	01	2258	2258	2305	S09	E47	4201	06	5.5	7	SN		2	C		18		
PEKG	02	0005E	0007	0013	S09	E47		06	5.5	8D	SN			P	0007	21	.3	E
HOLL	02	0051	0057	0115	S09	E46	4201	06	5.5	24	SN		2	C		36		
PEKG	02	0057	0059	0105	S09	E46		06	5.5	8	SN			P	0059	25	.4	E
MANI	02	0103E	0107	0116	S06	E45		06	5.4	13D	SN		1	V		64	.9	
PALE	02	0334	0334	0351	S06	E38	4201	06	5.0	17	SF		3	C		20		
PEKG	02	0442	0444	0447	S08	W27		05	31.2	5	SF			C	0444	21	.2	E
PEKG	02	0615	0618	0628	S13	E42		06	5.4	13	SF			C	0618	42	.6	E
PEKG	02	0719	0721	0721D	S09	W29		05	31.1	2D	SF			P	0721	13	.1	E
CATA	02	0720	0725	0815D	S10	W29		05	31.1	55D	S		2	P	0725	84	1.0	
PEKG	02	0849	0852	0909	S07	E36		06	5.1	20	SF			C	0852	42	.5	D
RAMY	02	1340	1343	1351	S12	W11	4196	06	1.7	11	SN		3	C		38		
RAMY	02	1416	1420	1429	S12	W13	4196	06	1.6	13	SF		3	C		41		
HOLL	02	1417	1421	1424	S12	W13	4196	06	1.6	7	SF		2	C		21		F
HOLL	02	1453	1525	1622	S13	E37	4201	06	5.4	89	1B		2	C		274		F
RAMY	02	1504	1525	1606	S13	E38	4201	06	5.5	62	SB		3	C		176		FE
RAMY	02	1909	1912	1948	S12	W31	4202	05	31.5	39	SF		3	C		35		
HOLL	02	1909	1911	1952	S10	W32	4202	05	31.4	43	SF		3	C		52		F
HOLL	02	2143	2148	2201	S07	W32	4202	05	31.5	18	SF		3	C		29		F
HOLL	02	2341	2342	2353	S11	W18	4196	06	1.6	12	SF		3	C		111		F
HOLL	03	0032E	0040	0112	S12	E32	4201	06	5.4	40D	SN		3	C		98		F
PEKG	03	0033	0046	0100	S13	E32		06	5.4	27	SN			C	0046	55	.7	E
PALE	03	0040	0041	0115	S13	E32	4201	06	5.4	35	SN		3	C		71		
LEAR	03	0249	0250	0325	S11	E23	4201	06	4.8	36	SF		3	C		43		F
PALE	03	0308E	0308U	0342	S10	E21	4201	06	4.7	34D	SF		3	C		139		F
LEAR	03	0407	0409	0414	S08	E31	4201	06	5.5	7	SF		3	C		22		F
LEAR	03	0631	0641	0653	S08	E25	4201	06	5.1	22	SN		3	C		86		
LEAR	03	0822	0827	0841	S11	E24	4201	06	5.2	19	SF		2	C		97		
MANI	03	0825E	0827	0845	S11	E23		06	5.1	20D	SN		1	V		85	1.0	F
CATA	03	0825E	0825	0845	S10	E24		06	5.2	20D	S		2	P	0825	112	1.3	T
RAMY	03	1117	1124	1130	S09	E22	4201	06	5.1	13	SN		3	C		23		F
RAMY	03	1139	1145	1147D	S10	E23	4201	06	5.2	8D	1B		3	C		211		
HOLL	03	1253E	1256	1502	S10	E21	4201	06	5.1	129D	SB		2	C		155		K
HOLL	03	1253E	1429	1502	S10	E21	4201	06	5.1	129D	SB		2	C		139		FHK
RAMY	03	1329	1338	1356	S09	E22	4201	06	5.2	27	SB		3	C		74		K
RAMY	03	1329	1349	1356	S09	E22	4201	06	5.2	27	SB		3	C		35		K
RAMY	03	1412	1430	1452	S09	E21	4201	06	5.2	40	SB		3	C		116		K
RAMY	03	1412	1434	1452	S09	E21	4201	06	5.2	40	SB		3	C		140		K
HOLL	03	1533	1536	1558	S10	E20	4201	06	5.2	25	SB		3	C		71		E
RAMY	03	1534	1535	1553	S09	E20	4201	06	5.2	19	SB		3	C		61		
PALE	03	1644	1647	1702	S10	E18	4201	06	5.1	18	SN		3	C		37		
RAMY	03	1644	1645	1645D	S08	E20	4201	06	5.2	1D	SB		3	C		46		
HOLL	03	1644	1644	1700	S10	E19	4201	06	5.1	16	SB		3	C		43		E
PALE	03	1716	1720	1732	S09	E24	4201	06	5.5	16	SF		3	C		36		
RAMY	03	1718	1719	1724	S09	E25	4201	06	5.6	6	SF		3	C		29		

H - ALPHA SOLAR FLARES

JUNE 1983

Sta	Day	Start (UT)	Max (UT	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr Sq Deg)	Remarks
PALE	03	1756	1757	1837	S10	E17	4201	06	5.0	41	SN		3	C		23		F
RAMY	03	1756	1758	1833	S10	E18	4201	06	5.1	37	SB		3	C		31		E
HOLL	03	1756	1759	1819	S10	E18	4201	06	5.1	23	SB		2	C		35		E
RAMY	03	1930		2019	S11	E17	4201	06	5.1	49	SN		3	C		22		
HOLL	03	2031	2048	2129	S11	E22	4201	06	5.5	58	1F		3	C		206		UFK
HOLL	03	2031	2117	2129	S11	E22	4201	06	5.5	58	SN		3	C		85		K
RAMY	03	2052	2121	2123	S11	E17	4201	06	5.1	31	SN		3	C		45		
RAMY	03	2131	2135	2154	S11	E18	4201	06	5.3	23	SN		3	C		34		
HOLL	03	2135	2138	2154	S09	E20	4201	06	5.4	19	SN		3	C		43		F
PALE	03	2136	2137	2151	S07	E17	4201	06	5.2	15	SN		3	C		29		
HOLL	03	2208	2211	2238	S10	E16	4201	06	5.1	30	SN		3	C		65		K
HOLL	03	2208	2222	2238	S10	E16	4201	06	5.1	30	SB		3	C		69		K
PALE	03	2211	2212	2226	S09	E22	4201	06	5.6	15	SF		3	C		39		K
PALE	03	2211	2222	2226	S09	E22	4201	06	5.6	15	SN		3	C		41		K
HOLL	03	2240	2241	2327	S08	E22	4201	06	5.6	47	SF		3	C		27		K
HOLL	03	2240	2306	2327	S08	E22	4201	06	5.6	47	SN		3	C		56		FK
HOLL	03	2335	2335	0003	S09	E20	4201	06	5.5	28	SN		3	C		27		K
HOLL	03	2335	2343	0003	S09	E20	4201	06	5.5	28	SB		3	C		54		FEK
HOLL	04	0012	0046	0137D	S10	E15	4201	06	5.1	85D	SN		3	C		68		F
PALE	04	0028	0029	0110	S09	E21	4201	06	5.6	42	SF		3	C		98		
PURP	04	0034	0042	0125	S11	E21		06	5.6	51	SF			C	0042	35	.4	E
PALE	04	0133	0133	0138	S07	E15	4201	06	5.2	5	SF		3	C		28		
LEAR	04	0215	0218	0318	S10	E07	4201	06	4.6	63	1B		3	C		272		F
PALE	04	0216	0218U	0301	S09	E10	4201	06	4.8	45	SN		3	C		180		F
PURP	04	0225E	0225	0244D	S12	E11		06	4.9	19D	SB			C	0225	169	1.8	
LEAR	04	0320	0323	0423	S11	E08	4201	06	4.7	63	SN		3	C		116		F
PALE	04	0321	0322U	0401	S09	E10	4201	06	4.9	40	SN		3	C		39		F
LEAR	04	0513	0513	0522	S09	E18	4201	06	5.6	9	SF		3	C		25		
PURP	04	0515E	0515	0543	S10	E18		06	5.6	28D	SN			P	0515	35	.4	E
LEAR	04	0527	0527	0538	S11	E17	4201	06	5.5	11	SF		3	C		33		
LEAR	04	0546	0548	0608	S11	E17	4201	06	5.5	22	SF		3	C		50		
BUCA	04	0650E		0655	S10	E17		06	5.6	5D	SN			C	0650	43	.5	D
LEAR	04	0652	0653	0656	S10	E17	4201	06	5.6	4	SF		3	C		30		
CATA	04	0705	0705	0715	S19	E42		06	7.5	10	S		2	C	0705	56	.8	
RAMY	04	1049E	1129	1129D	S09	E15	4201	06	5.6	40D	SB		3	C		121		
HOLL	04	1315E	1332	1425D	S09	E13	4201	06	5.5	70D	SN		3	C		97		K
HOLL	04	1315E	1415	1425D	S09	E13	4201	06	5.5	70D	SN		3	C		135		FK
RAMY	04	1316	1331	1342	S09	E14	4201	06	5.6	26	SN		3	C		72		F
RAMY	04	1358	1417	1443	S09	E11	4201	06	5.4	45	SB		3	C		47		F
HOLL	04	1430E	1430U	1449D	S09	E11	4201	06	5.4	19D	SN		3	C		47		F
HOLL	04	1547	1549	1627D	S08	E12	4201	06	5.6	40D	SN		3	C		43		F
RAMY	04	1553	1555	1610	S08	E10	4201	06	5.4	17	SN		3	C		30		
HOLL	04	1751	1819	1836	S11	W58	4199	05	31.4	45	SF		3	C		33		F
HOLL	04	1950	1951	2031	S11	E05	4201	06	5.2	41	1B		2	C		390		F
HOLL	04	2046	2048	2057	S10	E03	4201	06	5.1	11	SN		2	C		33		F
HOLL	04	2147	2148	2205	S14	E90	4204	06	11.7	18	SF		2	C		18		
PALE	04	2229E	2316U	2335	S10	E07	4201	06	5.5	66D	SF		3	C		79		F
HOLL	04	2313E	2316U	2323	S10	E08	4201	06	5.6	10D	SN		2	C		48		F
HOLL	05	0024	0025	0034	S10	E03	4201	06	5.2	10	SN		2	C		21		F
LEAR	05	0120	0121	0124	S09	E08	4201	06	5.7	4	SF		3	C		24		
HOLL	05	0120	0125	0131	S08	E07	4201	06	5.6	11	SN		2	C		30		F
LEAR	05	0330	0338	0423	S11	W00	4201	06	5.1	53	SN		3	C		96		
LEAR	05	0609	0612	0621	S13	W62	4199	05	31.6	12	SF		3	C		17		
ISTA	05	0650		0834	S08	E05		06	5.7	104	1B							F
BUCA	05	0650	0705U	0730	S07	E06		06	5.7	40	SN			P	0705	107	1.1	E
PURP	05	0658	0701	0705	S11	E05		06	5.7	7	SN			C	0701	35	.4	E
LEAR	05	0658	0707	0717	S10	E02	4201	06	5.4	19	SN		3	C		61		F
PEKG	05	0700E	0704	0733	S08	E05		06	5.7	33D	SF			P	0704	59	.6	EK
PEKG	05	0700E	0727	0733	S09	E05		06	5.7	33D	SF			P	0727	50	.5	E
LEAR	05	0724	0726	0730	S10	E02	4201	06	5.5	6	SN		3	C		33		F
CATA	05	0840	0845	0950	S11	W02		06	5.2	70	S		2	C	0845	112	1.2	
LEAR	05	0846	0850	0857	S12	W02	4201	06	5.2	11	SN		3	C		40		FE
RAMY	05	1158	1208	1219	S11	W02	4201	06	5.3	21	SB		3	C		55		
RAMY	05	1228	1228	1236	S11	W05	4201	06	5.1	8	SN		3	C		23		F
RAMY	05	1238	1240	1245	S08	W02	4201	06	5.4	7	SF		3	C		39		
RAMY	05	1258	1258	1313	S10	W03	4201	06	5.3	15	SF		3	C		23		
HOLL	05	1312	1325	1438	S10	W01	4201	06	5.5	86	SB		3	C		90		K
HOLL	05	1312	1336	1438	S10	W01	4201	06	5.5	86	SB		3	C		84		ZFK
RAMY	05	1317	1336	1436	S10	W04	4201	06	5.3	79	SB		3	C		80		FEK

H - ALPHA SOLAR FLARES

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	05	1317	1354	1436	S10	W04	4201	06	5.3	79	SN			3	C		96		K
RAMY	05	1345	1348	1353	S08	E79	4204	06	11.5	8	SF			3	C		22		
HOLL	05	1404	1430	1446	S09	E77	4204	06	11.4	42	SF			3	C		40		
RAMY	05	1421	1422	1525	S08	E77	4204	06	11.4	64	SN			3	C		14		K
RAMY	05	1421	1454	1525	S08	E77	4204	06	11.4	64	SF			3	C		17		K
RAMY	05	1442	1444	1451	S12	W06	4201	06	5.2	9	SN			3	C		47		F
HOLL	05	1443	1443	1455	S10	W06	4201	06	5.2	12	SN			3	C		30		F
HOLL	05	1447	1503	1531	S09	E78	4204	06	11.5	44	SF			3	C		24		
RAMY	05	1539	1544	1633	S09	W00	4201	06	5.7	54	SB			3	C		151		FEK
RAMY	05	1539	1624	1633	S09	W00	4201	06	5.7	54	SN			3	C		49		K
HOLL	05	1539	1544	1657	S09	W01	4201	06	5.6	78	SB			3	C		162		FEK
HOLL	05	1539	1629	1657	S09	W01	4201	06	5.6	78	SN			3	C		33		K
HOLL	05	1542	1618	1632	S11	W72	4199	05	31.2	50	SN			3	C		69		F
RAMY	05	1543	1543	1609	S12	W71	4199	05	31.3	26	SF			3	C		22		
RAMY	05	1616	1618	1631	S14	W70	4199	05	31.4	15	SF			3	C		13		
RAMY	05	1658	1710	1811D	S10	W03	4201	06	5.5	73D	SB			3	C		179		K
RAMY	05	1658	1755	1811D	S10	W03	4201	06	5.5	73D	1B			3	C		217		UFK
PALE	05	1700	1705	1709D	S09	W02	4201	06	5.6	9D	SB			3	C		153		FE
HOLL	05	1700E	1709	1847	S10	W01	4201	06	5.6	107D	SB			3	C		174		UFK
HOLL	05	1700E	1757	1847	S10	W01	4201	06	5.6	107D	SB			3	C		189		K
PALE	05	1803	1803	1819	S13	W73	4199	05	31.2	16	SF			3	C		24		
HOLL	05	1845	1853	1857	S09	E73	4204	06	11.3	12	SF			3	C		24		
HOLL	05	1900	1932	2017	S10	W04	4201	06	5.5	77	SN			3	C		130		K
HOLL	05	1900	1939	2017	S10	W04	4201	06	5.5	77	SB			3	C		154		UK
HOLL	05	1931	1932	1944	S11	W72	4199	05	31.4	13	SF			3	C		19		
HOLL	05	1936	1940	2026	S09	E73	4204	06	11.3	50	SN			3	C		71		
HOLL	05	1958	2004	2020	S11	W72	4199	05	31.4	22	SN			3	C		49		
HOLL	05	2124	2124	2144	S09	W13	4201	06	4.9	20	SB			3	C		31		K
HOLL	05	2124	2132	2144	S09	W13	4201	06	4.9	20	SN			3	C		33		K
HOLL	05	2158	2201	2232	S11	W74	4199	05	31.3	34	SN			3	C		22		
HOLL	05	2217	2220	2225	S09	W09	4201	06	5.3	8	SN			3	C		34		
HOLL	05	2248	2248	2312D	S10	W07	4201	06	5.4	24D	SN			3	C		35		K
HOLL	05	2248	2309	2312D	S10	W07	4201	06	5.4	24D	SB			3	C		62		ZUK
PEKG	06	0020E	0020	0030D	S08	W11		06	5.2	10D	SF				P	0020	59	.6	E
LEAR	06	0020	0021	0108	S16	W07	4201	06	5.5	48	SN			3	C		31		FH
HOLL	06	0020	0021	0030	S16	W07	4203	06	5.5	10	SF			3	C		84		
HOLL	06	0022	0043	0122	S10	W09	4201	06	5.3	60	SB			3	C		35		ZE
PURP	06	0058E	0058	0058D	S12	W10		06	5.3	60D	SN				C	0058	71	.8	D
PALE	06	0138E	0201	0351	S11	W10	4201	06	5.3	133D	SF			3	C		81		K
PALE	06	0138E	0224U	0351	S11	W10	4201	06	5.3	133D	SN			3	C		54		ZFK
PEKG	06	0139E	0140	0220D	S10	W10		06	5.3	41D	SF				P	0140	67	.7	EK
PEKG	06	0139E	0159	0220D	S10	W09		06	5.4	41D	SF				P	0159	76	.8	E
PURP	06	0237	0238	0248	S13	W08		06	5.5	11	SN				P	0238	35	.4	D
LEAR	06	0304E	0309	0335	S11	W10	4201	06	5.4	31D	SN			3	C		105		F
PEKG	06	0305	0313	0420D	S09	W09		06	5.5	75D	SN				P	0313	88	.9	FU
LEAR	06	0338	0342	0350	S12	W77	4199	05	31.3	12	SF			3	C				
LEAR	06	0417	0427	0457	S11	W11	4201	06	5.4	40	SB			3	C		83		F
PURP	06	0431E	0431	0447	S13	W09		06	5.5	16D	SN				P	0431	99	1.1	
PEKG	06	0435	0436	0448	S11	W11		06	5.4	13	SN				P	0436	101	1.1	E
LEAR	06	0516	0516	0602	S11	W09	4201	06	5.5	46	SB			3	C		103		FK
LEAR	06	0516	0516	0602	S11	W09	4201	06	5.5	46	SN			3	C		59		K
LEAR	06	0614	0616	0622	S13	W76	4199	05	31.5	8	SF			3	C		15		
LEAR	06	0728	0730	0734	S10	W13	4204	06	5.3	6	SF			3	C		31		
PEKG	06	0742	0755	0823	S10	W13		06	5.3	41	SF				P	0755	84	.9	E
LEAR	06	0746	0754	0855	S10	W13	4201	06	5.3	69	SB			3	C		147		FE
ISTA	06	0750		0820	S08	W15		06	5.2	30	SN								E
PURP	06	0756E	0756	0837D	S12	W11		06	5.5	41D	2N				C	0756	552	5.9	
PEKG	06	0826E	0826	0835	S10	W12		06	5.4	9D	SN				C	0826	101	1.1	EU
PEKG	06	0840	0842	0919	S10	W10		06	5.6	39	SN				C	0842	139	1.5	E
RAMY	06	1244	1244	1312	S11	W14	4201	06	5.5	28	SN			3	C		35		
RAMY	06	1329	1334	1539	S11	W17	4201	06	5.3	130	SB			3	C		101		K
RAMY	06	1329	1342	1539	S11	W17	4201	06	5.3	130	1B			3	C		470		ZUK
HOLL	06	1331	1351	1532	S11	W15	4201	06	5.4	121	1B			3	C		373		ZUK
HOLL	06	1331	1439	1532	S11	W15	4201	06	5.4	121	SB			3	C		79		K
HOLL	06	1344	1350	1418	S12	E60	4204	06	11.1	34	SF			3	C		33		
HOLL	06	1402	1404	1409	S13	W79	4199	05	31.6	7	SF			3	C		11		
HOLL	06	1520	1522	1705	S19	W15	4203	06	5.5	105	SF			3	C		53		
RAMY	06	1539	1545	1558	S19	W16	4203	06	5.4	19	SF			3	C		26		
HOLL	06	1543	1546	1554	S09	W15	4201	06	5.5	11	SN			3	C		48		F
RAMY	06	1714	1716	1724	S11	W18	4201	06	5.4	10	SN			3	C		29		

H - ALPHA SOLAR FLARES

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10⁻⁶ Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	06	1723	1723	1734	S12	W90	4199	05	30.9	11	SF		3	C		12		
HOLL	06	1723	1724	1729	S11	W83	4199	05	31.5	6	SF		3	C		18		
RAMY	06	1737	1737	1746D	S09	W19	4201	06	5.3	9D	SN		3	C		30		K
RAMY	06	1737	1744	1758D	S11	W19	4201	06	5.3	21D	SB		3	C		119		FE
PALE	06	1742	1744	1822	S09	W20	4201	06	5.2	40	SB		3	C		125		
HOLL	06	1743	1744	1801	S11	W18	4201	06	5.4	18	SB		3	C		102		E
RAMY	06	1755	1757	1804	S13	E57	4204	06	11.1	9	SF		3	C		38		
HOLL	06	1756	1801	1809	S15	E57	4204	06	11.1	13	SF		3	C		34		
HOLL	06	1802	1807	1812	S09	W16	4201	06	5.5	10	SN		3	C		24		
RAMY	06	1812	1817	1818D	S19	W18	4203	06	5.4	6D	SF		3	C		54		
HOLL	06	1813	1816	1823	S18	W18	4203	06	5.4	10	SF		3	C		42		
HOLL	06	2128	2131U	2216D	S09	W16	4201	06	5.7	48D	SN		2	C		52		F
HOLL	06	2225	2228	2301	S08	E59	4204	06	11.4	36	SN		2	C		68		F
HOLL	06	2250	2252	2258	S20	W20	4203	06	5.4	8	SN		2	C		46		
LEAR	07	0103	0106	0120	S20	W22	4203	06	5.4	17	SF		2	C		89		
HOLL	07	0104E	0107U	0117	S18	W20	4203	06	5.5	13D	SF		2	C		82		F
HOLL	07	0104E	0114U	0121	S09	W17	4201	06	5.8	17D	SN		2	C		43		F
LEAR	07	0113	0116	0122	S11	W22	4201	06	5.4	9	SF		2	C		43		F
PEKG	07	0230E	0233	0300	S09	W21		06	5.5	30D	SF			P	0233	46	.5	E
PALE	07	0233	0257	0327	S08	E57	4204	06	11.4	54	SF		3	C		95		
LEAR	07	0240	0258	0318	S09	E56	4204	06	11.3	38	SF		2	C		49		
PEKG	07	0344	0348	0353	S08	W31		06	4.8	9	SF			P	0348	34	.4	D
LEAR	07	0419	0420	0428	S10	W22	4201	06	5.5	9	SF		2	C		65		F
PEKG	07	0420E	0421	0430	S09	W23		06	5.5	10D	SN			P	0421	97	1.1	E
PEKG	07	0440	0442	0445	S10	W23		06	5.5	5	SF			C	0442	42	.5	D
PEKG	07	0522	0525	0532	S07	W32		06	4.8	10	SF			C	0525	50	.6	E
LEAR	07	0549	0553	0629	S09	E54	4204	06	11.3	40	SF		3	C		28		
LEAR	07	0718	0720	0727	S10	W25	4201	06	5.4	9	SF		3	C		42		F
PEKG	07	0722E	0722	0725	S09	W25		06	5.4	3D	SF			P	0722	29	.3	E
LEAR	07	0737	0739	0748	S11	W25	4201	06	5.4	11	SN		3	C		21		F
LEAR	07	0840	0843	0910D	S12	W26	4201	06	5.4	30D	SF		3	C		20		F
PEKG	07	0842	0852	0925D	S10	W24		06	5.6	43D	SF			P	0852	63	.7	E
RAMY	07	1201	1201	1210	S10	E68	4205	06	12.6	9	SF		3	C		12		
HOLL	07	1339	1342	1358	S17	W29	4203	06	5.4	19	SF		3	C		21		
HOLL	07	1412	1412	1441	S08	W31	4201	06	5.3	29	SN		3	C		69		FK
HOLL	07	1412	1427	1441	S08	W31	4201	06	5.3	29	SN		3	C		28		K
RAMY	07	1420	1427	1439	S09	W36	4201	06	4.9	19	SN		3	C		43		
HOLL	07	1504	1508	1514	S10	W35	4201	06	5.0	10	SN		3	C		37		F
RAMY	07	1646	1647	1707	S10	W33	4201	06	5.2	21	SN		3	C		32		
HOLL	07	1646	1647	1653	S10	W28	4201	06	5.6	7	SN		3	C		22		
HOLL	07	1719	1720	1725	S07	W36	4201	06	5.0	6	SN		3	C		29		F
HOLL	07	1901	1903	1932	S10	W30	4201	06	5.5	31	SN		3	C		53		F
PALE	07	1905	1907	1940	S11	W32	4201	06	5.4	35	SF		3	C		88		F
HOLL	07	2039	2041	2131	S10	W31	4201	06	5.5	52	SB		3	C		102		K
HOLL	07	2039	2053	2131	S10	W31	4201	06	5.5	52	SB		3	C		118		FK
PALE	07	2047E	2057U	2117D	S11	W32	4201	06	5.5	30D	IN		3	C		318		F
HOLL	07	2155	2158	2206	S09	W33	4201	06	5.4	11	SN		3	C		56		F
PEKG	07	2306	2306	0105	S09	E45		06	11.3	119	SF			C	2306	50	.7	E
LEAR	08	0015	0015	0023	S10	E42	4204	06	11.2	8	SF		2	C		21		F
HOLL	08	0016	0017	0044	S10	E43	4204	06	11.2	28	SN		3	C		26		
LEAR	08	0037	0110	0350	S10	W37	4201	06	5.2	193	SN		3	C		75		K
LEAR	08	0037	0124	0350	S10	W37	4201	06	5.2	193	SN		3	C		109		ZFK
PALE	08	0039E	0125U	0316D	S10	W38	4201	06	5.2	157D	SN		3	C		100		ZF
PEKG	08	0101	0110	0145	S10	W39		06	5.1	44	SN			C	0110	55	.7	EZ
HOLL	08	0101	0103	0144D	S10	W36	4201	06	5.3	43D	SN		2	C		29		K
HOLL	08	0101	0117	0144D	S10	W36	4201	06	5.3	43D	SN		2	C		41		FK
MANI	08	0134E	0137	0206	S10	W39		06	5.1	32D	SN		1	V		95	1.3	F
PEKG	08	0335E	0350	0424	S10	W37		06	5.4	49D	SF			P	0350	34	.4	D
PEKG	08	0600	0606	0620	S09	W36		06	5.5	20	SN			C	0606	126	1.6	E
LEAR	08	0603	0605	0632	S09	W34	4201	06	5.7	29	SB		2	C		115		F
MANI	08	0604E	0605	0617D	S09	W34		06	5.7	13D	SN		1	V		110	1.4	F
PURP	08	0616E	0623U	0635	S10	W35		06	5.6	19D	SN			P	0623	156	2.0	
CATA	08	0620E	0620	0620D	S09	W36		06	5.6	19D	1		2	P	0620	253	3.3	
LEAR	08	0745	0747	0825	S10	E39	4204	06	11.3	40	SN		2	C		103		F
CATA	08	0745E	0745	0805D	S10	E38		06	11.2	20D	S		2	P	0745	140	1.9	
PEKG	08	0748	0755	0800D	S10	E38		06	11.2	12D	SN			C	0755	59	.8	E
PURP	08	0752E	0754	0804	S11	E39		06	11.3	12D	SN			C	0754	71	1.0	E
RAMY	08	1102E	1136	1325D	S10	W43	4201	06	5.2	143D	SN		3	C		74		K
RAMY	08	1102E	1323U	1325D	S10	W43	4201	06	5.2	143D	IN		3	C		291		FK

H - ALPHA S O L A R F L A R E S

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	08	1221	1222	1229	S10	E37	4204	06	11.3	8	SF		3	C		27		F
HOLL	08	1248	1306	1404	S08	W38	4201	06	5.7	76	1B		2	C		264		F
RAMY	08	1632	1635	1644	S07	W46	4201	06	5.2	12	SN		3	C		59		
HOLL	08	2057	2107	2111	S08	W45	4201	06	5.5	14	SN		3	C		30		
HOLL	08	2118	2118	2211	S10	W50	4201	06	5.1	53	SN		3	C		91		K
HOLL	08	2118	2153	2211	S10	W50	4201	06	5.1	53	SN		3	C		27		FK
LEAR	09	0210	0213	0306	S09	W46	4201	06	5.6	56	SN		3	C		155		F
PALE	09	0210	0213	0249	S09	W46	4201	06	5.6	39	SN		3	C		153		F
PURP	09	0215E	0218U	0238	S11	W45		06	5.7	23D	1N			C	0218	170	2.5	
LEAR	09	0231	0232	0307	S10	E28	4204	06	11.2	36	SF		3	C		29		
PEKG	09	0234E	0234	0316	S07	W47		06	5.6	42D	SF			P	0234	126	1.9	E
LEAR	09	0338	0339	0343	S07	E30	4204	06	11.4	5	SF		3	C		24		
LEAR	09	0343	0344	0350	S22	W47	4203	06	5.5	7	SF		3	C		37		
LEAR	09	0408	0411	0420	S10	E27	4204	06	11.2	12	SF		3	C		23		
LEAR	09	0541	0542	0603	S18	W49	4203	06	5.5	22	SF		3	C		34		
CATA	09	1015	1015	1040	S09	W52		06	5.5	25	S		2	C	1015	112	1.9	
RAMY	09	1106	1113	1127	S06	W60	4201	06	5.0	21	SN		3	C		30		
HOLL	09	1314	1316	1321	S10	E43	4205	06	12.8	7	SF		1	C		25		
RAMY	09	1342	1356	1356	S06	W55	4201	06	5.5	14	SF		3	C		22		
HOLL	09	1432	1433	1440	S06	W65	4201	06	4.7	8	SF		3	C		23		
HOLL	09	1622	1630	1654	S12	E16	4204	06	10.9	32	SN		3	C		35		FK
HOLL	09	1622	1649	1654	S12	E16	4204	06	10.9	32	SF		3	C		28		K
HOLL	09	1658	1703	1725	S10	E21	4204	06	11.3	27	SN		3	C		34		
HOLL	09	1659	1700	1705	S15	W57	4203	06	5.4	6	SF		3	C		21		
HOLL	09	1820E	1820U	1849	S09	E20	4204	06	11.3	29D	SN		3	C		43		F
HOLL	09	1918E	1918U	1929D	S11	E25	4204	06	11.7	11D	SF		3	C		19		
HOLL	09	2048	2053	2101	S12	W62	4201	06	5.2	13	1B		3	C		215		FE
HOLL	09	2158	2202	2229	S08	E23	4204	06	11.6	31	SB		3	C		117		H
PALE	09	2202E	2202U	2214D	S08	E23	4204	06	11.6	12D	SN		3	C		116		
HOLL	10	0105	0110	0115D	S10	E16	4204	06	11.2	10D	SF		3	C		24		
HOLL	10	0112	0112	0124D	S10	W61	4201	06	5.5	12D	SF		3	C		19		
LEAR	10	0212	0215	0229	S10	E15	4204	06	11.2	17	SN		2	C		92		F
PEKG	10	0215E	0217	0245	S10	E16		06	11.3	30D	SF			P	0217	50	.5	E
PURP	10	0216	0217	0226	S10	E15		06	11.2	10	SF			C	0217	78	.8	E
PALE	10	0216E	0216U	0232	S09	E16	4204	06	11.3	16D	SF		3	C		44		
LEAR	10	0510	0511	0515	S14	W65	4201	06	5.3	5	SF		3	C		30		
BUCA	10	0615	0625U	0645	S09	E13		06	11.2	30	SN			P	0625	107	1.1	E
LEAR	10	0753	0810	0901D	S11	E12	4204	06	11.2	68D	SN		3	C		110		F
CATA	10	0820E	0830	0905	S12	E11		06	11.2	45D	S		2	P	0830	112	1.2	
HOLL	10	1255E	1318	1409	S08	E15	4204	06	11.7	74D	SF		3	C		34		K
HOLL	10	1255E	1333	1409	S08	E15	4204	06	11.7	74D	SB		3	C		97		FK
RAMY	10	1259	1332	1410	S09	E15	4204	06	11.7	71	SB		3	C		175		F
RAMY	10	1422	1423	1436	S10	E07	4204	06	11.1	14	SB		3	C		70		FE
HOLL	10	1423E	1423U	1438	S09	E07	4204	06	11.1	15D	SN		3	C		60		F
RAMY	10	1746	1753	1820D	S09	E11	4204	06	11.6	34D	SB		3	C		93		K
RAMY	10	1746	1759	1820D	S09	E11	4204	06	11.6	34D	1B		3	C		260		K
HOLL	10	1749	1752	1819	S08	E12	4204	06	11.6	30	SB		4	C		79		K
HOLL	10	1749	1759	1819	S08	E12	4204	06	11.6	30	1B		4	C		212		EK
PALE	10	1751	1752	1755	S07	E11	4204	06	11.6	4	SB		3	C		28		
HOLL	10	1923	1923	1929	S17	W70	4203	06	5.5	6	SF		3	C		27		
HOLL	10	2044	2048	2055	S08	E10	4204	06	11.6	11	SN		3	C		46		F
HOLL	10	2116	2117	2227	S10	E04	4204	06	11.2	71	SN		3	C		69		K
HOLL	10	2116	2153	2227	S10	E04	4204	06	11.2	71	SN		3	C		64		FK
HOLL	11	0008	0011	0022	S08	E08	4204	06	11.6	14	SB		3	C		75		E
LEAR	11	0010	0012	0023	S09	E08	4204	06	11.6	13	SN		2	C		70		
LEAR	11	0149	0154	0211	S08	E07	4204	06	11.6	22	SF		3	C		73		
LEAR	11	0228	0230	0251	S08	E05	4204	06	11.5	23	SF		3	C		48		
ISTA	11	0650		0702	S08	E05		06	11.7	12	SN							E
LEAR	11	0651	0656	0725	S08	E04	4204	06	11.6	34	1B		3	C		255		F
MANI	11	0652	0653	0732	S09	E04		06	11.6	40	1B		1	V		260	2.7	F
CATA	11	0655	0658	0715	S08	E03		06	11.5	20	S		2	C	0658	112	1.2	
CATA	11	0950	1005	1015	S09	W03		06	11.2	25	S		2	C	1005	140	1.5	
RAMY	11	1033	1102	1131	S08	W02	4204	06	11.3	58	SF		3	C		55		
RAMY	11	1150	1150	1156	S08	W03	4204	06	11.3	6	SN		3	C		31		
RAMY	11	1545	1607	1610	S10	W07	4204	06	11.1	25	SN		3	C		26		
HOLL	11	1546	1547	1601	S11	W07	4204	06	11.1	15	SF		3	C		29		F
HOLL	11	1607	1607	1610	S08	W01	4204	06	11.6	3	SN		3	C		24		F
PALE	11	2031	2031	2041D	S12	W10	4204	06	11.1	10D	SF		3	C		59		F

H - ALPHA SOLAR FLARES

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	11	2032	2032	2039	S11	W10	4204	06	11.1	7	SF			3	C		42		
HOLL	11	2354	2354	0002	S11	E09	4205	06	12.7	8	SF			3	C		26		
LEAR	12	0438	0438	0452	S10	W13	4204	06	11.2	14	SF			3	C		43		F
RAMY	12	1215	1245	1310	S08	W16	4204	06	11.3	55	SF			3	C		33		
HOLL	12	1512	1512	1519	S09	W19	4204	06	11.2	7	SF			2	C		44		F
RAMY	12	1543	1548	1604	S08	W18	4204	06	11.3	21	SF			3	C		95		
HOLL	12	1547	1549	1556	S07	W18	4204	06	11.3	9	SF			3	C		36		
HOLL	12	1812	1812	1823	S11	W23	4204	06	11.0	11	SF			3	C		38		
HOLL	12	2230	2236	2245	S06	W28	4204	06	10.8	15	SB			3	C		80		EH
PALE	12	2231E	2236U	2236D	S08	W28	4204	06	10.8	5D	SF			3	C		33		F
LEAR	12	2354E	2355U	0031	S10	W22	4204	06	11.3	37D	SF			2	C		59		
HOLL	12	2354	2355	0007	S09	W24	4204	06	11.2	13	SN			3	C		60		F
LEAR	13	0121	0128	0132	S08	W29	4204	06	10.9	11	SN			3	C		35		H
HOLL	13	0129	0129	0138	S06	W28	4204	06	11.0	9	SN			2	C		45		
LEAR	13	0314	0315	0320	S08	W30	4204	06	10.9	6	SN			3	C		71		F
LEAR	13	0432	0435	0437	S10	W25	4204	06	11.3	5	SF			3	C		21		F
CATA	13	0615	0615	0620D	S07	W33		06	10.8	5D	S			2	P	0615	140	1.7	
LEAR	13	0621	0630	0636	S07	W32	4204	06	10.9	15	SN			3	C		89		
PURP	13	0629	0632	0637	S08	W32		06	10.9	8	SN				C	0632	92	1.1	
LEAR	13	0703	0706	0708	S06	E72		06	18.7	5	SF			3	C				
LEAR	13	0747	0755	0812	S11	W30	4204	06	11.1	25	SF			3	C		41		
LEAR	13	0758	0759	0802	S06	E71		06	18.6	4	SF			3	C		13		
LEAR	13	0837	0838	0844	S06	E70		06	18.6	7	SF			3	C		17		
RAMY	13	1053	1106	1136	S10	W30	4204	06	11.2	43	SF			3	C		89		
RAMY	13	1221	1226	1235	S08	W35	4204	06	10.9	14	SN			3	C		91		F
HOLL	13	1222	1222	1238	S09	W34	4204	06	11.0	16	SN			2	C		85		FH
RAMY	13	1341	1343	1357	S11	W32	4204	06	11.2	16	SN			3	C		45		F
HOLL	13	1341	1343	1403	S10	W33	4204	06	11.1	22	SF			3	C		41		
HOLL	13	1506	1510	1528	S11	W34	4204	06	11.1	22	SN			3	C		38		F
RAMY	13	1529	1530	1613D	S12	W34	4204	06	11.1	44D	SN			3	C		54		
HOLL	13	1530	1531	1543	S09	W32	4204	06	11.2	13	SB			3	C		49		F
HOLL	13	1813	1814	1820	S09	W35	4204	06	11.1	7	SF			3	C		24		
PALE	13	1857	1857	1908	S10	W35	4204	06	11.2	11	SN			3	C		30		
HOLL	13	1858	1858	1907	S09	W36	4204	06	11.1	9	SF			2	C		39		
HOLL	13	1935	1938	1945	S28	E53	4207	06	18.0	10	SN			3	C		81		
HOLL	13	1941	1942	1957	S06	W39	4204	06	10.9	16	SN			3	C		40		F
PALE	13	1942	1942	1948	S10	W33	4204	06	11.3	6	SF			3	C		22		
HOLL	13	2159	2159	2206	S11	W39	4204	06	11.0	7	SF			3	C		30		
HOLL	13	2330	2330	2358	S11	W39	4204	06	11.0	28	SN			3	C		27		K
HOLL	13	2330	2339	2358	S11	W39	4204	06	11.0	28	SB			3	C		131		FK
PALE	13	2336E	2339U	0004D	S12	W39	4204	06	11.0	28D	SN			3	C		103		F
LEAR	14	0020	0023	0030	S09	W37	4204	06	11.2	10	SF			3	C		22		
HOLL	14	0023	0023	0030	S11	W40	4204	06	11.0	7	SN			3	C		21		
LEAR	14	0319	0319	0326	S11	W39	4204	06	11.2	7	SF			3	C		18		
PEKG	14	0428	0433	0436	S09	W17		06	12.9	8	SF				C	0433	25	.3	E
LEAR	14	0429	0430	0437	S10	W17	4205	06	12.9	8	SN			3	C		44		F
LEAR	14	0435	0435	0523	S11	W41	4204	06	11.1	48	SN			3	C		71		K
LEAR	14	0435	0454	0523	S11	W41	4204	06	11.1	48	SF			3	C		119		K
PEKG	14	0436	0440	0449	S09	W40		06	11.2	13	SF				C	0440	92	1.3	E
LEAR	14	0622	0626	0630	S10	W18	4205	06	12.9	8	SF			3	C		14		
LEAR	14	0729	0730	0734	N19	E69	4210	06	19.6	5	SF			3	C		20		
CATA	14	0730E	0730	0735	N19	E70		06	19.7	5D	S			2	P	0730	56		
LEAR	14	0828	0844	0909D	S10	W43	4204	06	11.1	41D	SN			3	C		158		F
RAMY	14	1422	1423	1430	S10	W24	4205	06	12.8	8	SF			3	C		38		
HOLL	14	1445	1445	1458	N12	E70	4209	06	19.9	13	SF			3	C		20		
HOLL	14	1516	1524	1537	N16	E65	4210	06	19.6	21	SF			3	C		17		
HOLL	14	1554	1558	1605	S08	E56	4208	06	18.9	11	SF			3	C		18		
HOLL	14	1642	1647	1712	S06	W50	4204	06	11.0	30	SN			3	C		70		FK
HOLL	14	1642	1653	1712	S06	W50	4204	06	11.0	30	SN			3	C		74		K
RAMY	14	1643	1647	1718	S07	W50	4204	06	10.9	35	SN			3	C		45		F
PALE	14	1749	1751	1803	S07	E55	4208	06	18.9	14	SF			3	C		27		
HOLL	14	1749	1751	1824	S08	E54	4208	06	18.8	35	SF			2	C		46		
HOLL	14	2128	2130	2149	S07	E52	4208	06	18.8	21	SB			3	C		43		
HOLL	15	0041	0046	0054	N13	E63	4209	06	19.8	13	SF			3	C		19		
PEKG	15	0614	0616	0631	S08	E48		06	18.9	17	SF				P	0616	17	.2	E
PEKG	15	0659	0704	0715	N19	E57		06	19.6	16	SN				P	0704	25	.5	E
HOLL	15	1608	1609	1615	S09	E44	4208	06	19.0	7	SN			3	C		40		F

H - ALPHA SOLAR FLARES

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	15	1636E		1655	S06	E41	4208	06	18.8	19D	SF			3	C		55		
PALE	15	2222	2223	2248	S08	E40	4208	06	18.9	26	SF			3	C		69		
LEAR	15	2354E		0011	S13	E54	4213	06	20.1	17D	SF			2	C		22		
LEAR	16	0228	0232	0250	N19	E46	4210	06	19.6	22	SF			3	C		32		
LEAR	16	0230	0232	0241	S13	E54	4213	06	20.2	11	SF			3	C		17		
LEAR	16	0727	0746	0807	N13	E47	4209	06	19.9	40	SF			3	C		42		
CATA	16	1005	1005	1020	S15	E48		06	20.1	15	S			1	C	1005	84	1.4	
RAMY	16	1218E	1225	1244D	S13	E47	4213	06	20.1	26D	SF			3	C		19		K
RAMY	16	1218E	1244	1244D	S13	E47	4213	06	20.1	26D	SB			3	C		78		K
RAMY	16	1337	1340	1346	N13	E44	4209	06	19.9	9	SF			3	C		20		F
RAMY	16	1357	1357	1414	N19	E39	4210	06	19.6	17	SF			3	C		32		
HOLL	16	1443	1453	1511	S15	E46	4213	06	20.1	28	SN			3	C		74		F
RAMY	16	1513	1517	1733D	S13	E46	4213	06	20.1	140D	SF			3	C		17		K
RAMY	16	1513	1535	1733D	S13	E46	4213	06	20.1	140D	SB			3	C		145		K
HOLL	16	1516	1517	1535D	S14	E46	4213	06	20.1	19D	SF			3	C		23		
HOLL	16	1540E	1541	1544D	S14	E46	4213	06	20.1	4D	1B			3	C		194		
PALE	16	1823	1826	1831	N18	E35	4210	06	19.4	8	SF			3	C		53		
HOLL	16	2121	2121	2142	S14	E43	4213	06	20.1	21	SB			3	C		85		E
PALE	17	0034	0045U	0047D	N18	E32	4210	06	19.5	13D	SF			3	C		33		
HOLL	17	0101	0102	0103D	S14	E42	4213	06	20.2	2D	SB			3	C		80		E
LEAR	17	0428E	0429	0444D	N15	E40	4209	06	20.2	16D	SF			1	C		67		
LEAR	17	0429E	0429	0441D	N21	E32	4210	06	19.6	12D	SF			1	C		26		
RAMY	17	1124	1130	1140	S13	E33	4213	06	20.0	16	SF			3	C		61		
RAMY	17	1144	1203	1209	N12	E30	4209	06	19.8	25	SF			3	C		34		
RAMY	17	1212	1215	1228	N12	E26	4209	06	19.5	16	SF			3	C		36		
RAMY	17	1230	1231	1236	S10	E34	4213	06	20.1	6	SF			3	C		29		
RAMY	17	1259	1304	1317	N19	E25	4210	06	19.5	18	SF			3	C		90		
RAMY	17	1420E	1422U	1551D	N19	E25	4210	06	19.5	91D	SF			3	C		69		
HOLL	17	1428	1438	1522	N18	E26	4210	06	19.6	54	SF			3	C		39		
HOLL	18	1616	1617	1625	N12	W58	4211	06	14.3	9	SF			3	C		16		
HOLL	18	1930	1932	1945	S13	E17	4213	06	20.1	15	SF			3	C		33		F
HOLL	18	1931	1933	1937	S07	E56		06	23.0	6	SF			3	C		15		
HOLL	18	2230	2234	2251	S13	E14	4213	06	20.0	21	SF			3	C		56		F
HOLL	18	2307	2314	2326	N03	E66		06	23.9	19	SF			3	C		15		
HOLL	18	2345	0018	0102	S07	W04	4208	06	18.7	77	1B			3	C		213		F
LEAR	19	0016E	0018	0035	S07	W04	4208	06	18.7	19D	SN			2	C		140		F
PALE	19	0019E	0019U	0103D	S07	W04	4208	06	18.7	44D	SN			3	C		93		UF
LEAR	19	0213	0217	0233	S13	E12	4213	06	20.0	20	SN			3	C		73		F
LEAR	19	0311	0314	0329	S07	W06	4208	06	18.7	18	SF			3	C		89		F
LEAR	19	0528	0533	0547	N17	E63		06	24.0	19	SF			3	C		20		
LEAR	19	0651	0654	0714	N18	E01	4210	06	19.4	23	SF			3	C		95		F
LEAR	19	0745	0757	0819	N18	E01	4210	06	19.4	34	SF			3	C		90		F
LEAR	19	0828	0829	0833	N18	E62		06	24.1	5	SF			3	C		20		
RAMY	19	1237	1257	1338	N18	E60		06	24.1	61	1B			3	C		175		
HOLL	19	1257	1257	1321	N16	E58		06	23.9	24	SB			1	C		100		EH
HOLL	19	1740	1746	1754	N17	E59	4216	06	24.2	14	SB			3	C		112		E
PALE	19	1741	1746	1757	N19	E57		06	24.1	16	1B			3	C		187		FE
RAMY	19	1741	1746	1757	N18	E58		06	24.2	16	SB			3	C		86		
HOLL	19	1744	1750	1756	N13	E42	4214	06	22.9	12	SF			3	C		30		
HOLL	19	1747	1750	1806	S07	W15	4208	06	18.6	19	SF			3	C		31		
HOLL	19	1806	1849	1957	S14	E03	4213	06	20.0	111	SF			3	C		91		F
PALE	19	1841E	1904U	1922	S14	E03	4213	06	20.0	41D	SF			3	C		35		
PALE	19	1842E	1854U	1907	N18	E56	4216	06	24.0	25D	SF			3	C		21		
RAMY	19	1842	1854	1919	S15	E03	4213	06	20.0	37	SF			3	C		53		
HOLL	19	1850	1854	1902	N17	E57	4216	06	24.1	12	SN			3	C		25		
HOLL	19	1852	1900	1908	N19	W03	4210	06	19.6	16	SF			3	C		41		
HOLL	19	1853	1854	1904	N12	E40	4214	06	22.8	11	SF			3	C		22		
RAMY	19	1926	1930	1938	N17	E56	4216	06	24.1	12	SN			3	C		33		
PALE	19	1928	1929	2003	N18	E55	4216	06	24.0	35	SN			3	C		30		F
RAMY	19	1940	2016	2035	N17	E56	4216	06	24.1	55	SB			3	C		57		
HOLL	19	1956	2007	2025	S14	E03	4213	06	20.1	29	SB			3	C		52		F
RAMY	19	1958	2008	2030	S14	E04	4213	06	20.1	32	SB			3	C		53		K
RAMY	19	1958	2011	2030	S14	E04	4213	06	20.1	32	SB			3	C		45		K
PALE	19	2001	2002	2026	S14	E04	4213	06	20.1	25	SF			3	C		33		K
PALE	19	2001	2009U	2026	S14	E04	4213	06	20.1	25	SN			3	C		53		K
HOLL	19	2014	2016	2023	N13	E53	4216	06	23.8	9	SB			3	C		28		
PALE	19	2016E	2016U	2023	N19	E56	4216	06	24.1	7D	SN			3	C		27		

H - ALPHA SOLAR FLARES

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	19	2050	2053	2103	S15	E01	4213	06	19.9	13	SN		3	C		59		
RAMY	19	2059	2122	2142	N17	E54	4216	06	24.0	43	SN		3	C		25		
HOLL	19	2202	2205	2220	N19	E77	4217	06	25.8	18	SF		3	C		16		
HOLL	19	2204	2205	2210	N16	E55	4216	06	24.1	6	SF		3	C		19		
HOLL	19	2208	2219	2228	S13	E01	4213	06	20.0	20	SN		3	C		40		F
PALE	19	2210	2211	2220	N18	E53	4216	06	24.0	10	SF		3	C		23		
PALE	19	2210	2212	2220	N19	E67	4217	06	25.0	10	SF		3	C		18		
HOLL	19	2212	2212	2216	N17	E54	4216	06	24.0	4	SF		3	C		19		
PALE	19	2229	2241	2251	N19	E54	4216	06	24.1	22	SF		3	C		27		F
HOLL	19	2231	2235	0028	S13	E00	4213	06	19.9	117	SN		3	C		61		K
HOLL	19	2231	2343	0028	S13	E00	4213	06	19.9	117	SB		3	C		130		FK
PALE	19	2235	2235	2239	S13	E01	4213	06	20.0	4	SF		3	C		26		F
HOLL	19	2236	2242	2247	N17	E54	4216	06	24.0	11	SN		3	C		18		F
PALE	19	2242	2302	2328	S13	E01	4213	06	20.0	46	SF		3	C		54		K
PALE	19	2242	2313U	2328	S13	E01	4213	06	20.0	46	SN		3	C		73		K
HOLL	19	2252	2254	2341	N18	E68	4217	06	25.1	49	SF		3	C		16		
PALE	19	2346E	2346U	0022	S13	W00	4213	06	20.0	36D	SN		2	C		94		F
LEAR	20	0002E	0002U	0026	S13	W00	4213	06	20.0	24D	SF		1	C		119		F
HOLL	20	0044	0046	0123	N23	W04	4210	06	19.7	39	SN		3	C		118		F
LEAR	20	0045	0051	0120	N23	W04	4210	06	19.7	35	SF		2	C		109		F
PALE	20	0046	0048	0111	N22	W05	4210	06	19.6	25	SF		2	C		63		F
PEKG	20	0052E	0053	0112	N23	W04		06	19.7	20D	SN			C	0053	118	1.3	F
LEAR	20	0242	0244	0253	S13	E02	4213	06	20.3	11	SF		2	C		31		H
LEAR	20	0310	0312	0331	S13	E02	4213	06	20.3	21	SF		2	C		39		
LEAR	20	0437	0441	0454	S14	W03	4213	06	20.0	17	SF		3	C		28		
LEAR	20	0500	0511	0523	S14	W03	4213	06	20.0	23	SF		3	C		37		
RAMY	20	1306	1310	1323	S09	E82		06	26.7	17	1N		3	C		66		
HOLL	20	1318E	1323U	1333	S10	E79		06	26.5	15D	SF		3	C		39		
HOLL	20	1337	1347	1355	N09	W69	4211	06	15.4	18	SF		3	C		30		F
HOLL	20	1423	1427	1506	S15	W06	4213	06	20.1	43	SB		3	C		174		F
RAMY	20	1424	1426	1450	S14	W06	4213	06	20.1	26	SB		3	C		146		FE
HOLL	20	1438	1438	1446	N10	W86	4211	06	14.1	8	SF		3	C		13		
HOLL	20	1503	1505	1518	N18	W16	4210	06	19.4	15	SF		3	C		53		F
RAMY	20	1504	1504	1516	N18	W15	4210	06	19.5	12	SF		3	C		29		
HOLL	20	1517	1521	1532	N10	W90	4211	06	13.9	15	SF		3	C		29		
RAMY	20	1528	1534	1604	S12	E82		06	26.8	36	SF		3	C		21		K
RAMY	20	1528	1553	1604	S12	E82		06	26.8	36	SF		3	C		54		K
HOLL	20	2033E	2039	2059	N18	E41	4216	06	24.0	26D	SN		3	C		38		F
PALE	20	2038E	2040U	2107	N17	E41	4216	06	24.0	29D	SN		3	C		34		F
PALE	20	2154	2157U	2232	N19	E58	4217	06	25.3	38	SF		3	C		73		UF
HOLL	20	2158	2204	2234	N23	E60	4217	06	25.5	36	1F		3	C		191		UF
HOLL	20	2223	2235	2249	S08	E68	4219	06	26.0	26	SF		3	C		19		
HOLL	20	2343	0012	0036	N16	E40	4216	06	24.0	53	SF		3	C		31		
PEKG	20	2350E	2350E	0005	N17	E40		06	24.0	15D	SF			P	2350	34	.5	D
HOLL	20	2359	0007	0101D	S13	E72	4219	06	26.4	62D	1N		3	C		146		F
PEKG	21	0202	0207	0213	S14	W14		06	20.0	11	SN			C	0207	55	.6	E
PURP	21	0204E	0204	0221	S15	W12		06	20.2	17D	SB			C	0204	74	.8	
PURP	21	0519E	0519	0531	S10	E72		06	26.6	12D	SF			C	0519	50		
RAMY	21	1125E	1126	1215	S08	E72	4219	06	26.9	50D	SF		3	C		79		
RAMY	21	1153	1153	1209	N16	E32	4216	06	23.9	16	SF		3	C		20		
RAMY	21	1225	1228	1234	S11	W20	4213	06	20.0	9	SN		3	C		67		
RAMY	21	1538	1538	1612	N15	E29	4216	06	23.8	34	SN		3	C		34		F
HOLL	21	1538	1538	1551	N16	E31	4216	06	24.0	13	SN		3	C		29		F
PALE	21	1644	1647	1649	N17	E29	4216	06	23.9	5	SF		2	C		30		
PALE	21	1732	1733	1743	S08	E68	4219	06	26.8	11	SF		3	C		14		F
HOLL	21	1732	1735	1744	S11	E68	4219	06	26.9	12	SN		3	C		23		
PALE	21	1750	1758	1812	N16	E28	4216	06	23.9	22	SF		3	C		52		
PALE	21	1816	1818	1832	N17	E28	4216	06	23.9	16	SF		3	C		37		
RAMY	21	1857	1907	1913	S11	E67	4219	06	26.8	16	SF		3	C		40		
PALE	21	1907	1908	1915	S10	E66	4219	06	26.8	8	SF		3	C		44		U
HOLL	21	1907	1909	1914	S13	E66	4219	06	26.8	7	SF		3	C		28		
RAMY	21	1916	1917	1926	N15	E25	4216	06	23.7	10	SF		3	C		42		
PALE	21	1935	1935	1940	S08	E64	4219	06	26.6	5	SF		3	C		60		
HOLL	21	1938	1940	1946	S09	E63	4219	06	26.5	8	SF		3	C		15		
PALE	21	1944	1947	2004	N22	E46	4217	06	25.4	20	SF		3	C		36		F
RAMY	21	1944	1947	2004	N17	E42	4217	06	25.0	20	SF		3	C		34		F
HOLL	21	1944	1946	2002	N21	E46	4217	06	25.4	18	SN		3	C		35		
RAMY	21	2000	2018	2034	N14	E21	4216	06	23.4	34	SN		3	C		33		F
PALE	21	2001	2002	2008	N15	E24	4216	06	23.7	7	SF		3	C		25		

H - ALPHA S O L A R F L A R E S

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	21	2017	2018	2023	N15	E25	4216	06	23.7	6	SN		3	C		36		
RAMY	21	2032	2039	2042D	N12	E11	4214	06	22.7	10D	SF		3	C		22		
HOLL	21	2049	2056	2115	N14	E25	4216	06	23.8	26	SN		3	C		78		F
PALE	21	2050	2054	2111	N15	E24	4216	06	23.7	21	SN		3	C		82		F
HOLL	21	2142	2147	2202	N15	E24	4216	06	23.7	20	SN		3	C		29		
PALE	21	2144	2148	2150	N16	E26	4216	06	23.9	6	SF		3	C		21		
HOLL	21	2216	2220	2230	N14	E24	4216	06	23.7	14	SB		3	C		62		E
PALE	21	2221	2222	2226	N15	E23	4216	06	23.7	5	SN		3	C		25		
PALE	22	0023	0032U	0052D	S10	E64	4219	06	26.8	29D	SF		3	C		38		
PALE	22	0139	0151	0157	N15	E21	4216	06	23.7	18	SF		3	C		30		F
LEAR	22	0145	0145	0214	N14	W28	4209	06	20.0	29	SF		3	C		20		
PALE	22	0234	0248U	0256D	N16	E21	4216	06	23.7	22D	2		3	C		181		SU
LEAR	22	0246	0250	0302	N14	E22	4216	06	23.8	16	SB		3	C		79		F
LEAR	22	0506	0506	0520	N11	E07	4214	06	22.7	14	SF		3	C		33		F
LEAR	22	0537	0538	0548	N15	E20	4216	06	23.7	11	SF		3	C		38		F
LEAR	22	0633	0633	0646	N14	E18	4216	06	23.6	13	SF		3	C		30		
CATA	22	0755	0755	0805	N02	E90		06	29.1	10	S		2	C	0755	28		
CATA	22	0930	0930	1000	S09	E56		06	26.6	30	2		2	C	0930	281	5.3	
CATA	22	1000	1000	1020	N15	E17		06	23.7	20	S		2	C	1000	84	.9	
RAMY	22	1206E	1209	1238	N19	E36	4217	06	25.3	32D	SF		3	C		80		F
RAMY	22	1404	1408	1429	S08	E54	4219	06	26.6	25	SN		3	C		54		F
RAMY	22	1610	1612	1627	S08	E53	4219	06	26.6	17	SF		3	C		26		
RAMY	22	1635	1637	1645	S08	E52	4219	06	26.6	10	SN		3	C		27		
PALE	22	1725	1755	1814	S11	E51	4219	06	26.6	49	SF		3	C		71		
HOLL	22	1742	1744	1800	S08	E51	4219	06	26.6	18	SN		3	C		23		
RAMY	22	1759	1800	1820	N17	E17	4216	06	24.0	21	SB		3	C		72		U
HOLL	22	1759	1800	1822	N18	E17	4216	06	24.0	23	SB		3	C		87		U
RAMY	22	1842	1847	1855	N14	E11	4216	06	23.6	13	SB		3	C		126		FH
HOLL	22	1842	1847	1858	N14	E13	4216	06	23.8	16	SB		3	C		144		F
RAMY	22	2054	2055	2107	N15	E11	4216	06	23.7	13	SN		3	C		90		
PEKG	23	0340E	0341	0345	S14	W41		06	20.1	5D	SF			P	0341	34	.5	E
LEAR	23	0344	0345	0401	S14	W42	4213	06	20.0	17	SF		3	C		63		
LEAR	23	0639	0642	0651	S08	E43	4219	06	26.5	12	SN		3	C		56		F
CATA	23	0645E	0645	0655	S10	E42		06	26.4	10D	S		2	P	0645	56	.8	
CATA	23	0645E	0645	0655	S14	E52		06	27.2	10D	S		2	P	0645	28	.5	
CATA	23	1025	1035	1045	N19	E31		06	25.8	20	1		2	C	1035	169	2.1	
CATA	23	1105	1110	1120	N01	E72		06	28.8	15	1		1	C	1110	68		
RAMY	23	1325	1347	1351	S08	E42	4219	06	26.7	26	SN		3	C		38		F
HOLL	23	1345E	1346U	1352	S11	E42	4219	06	26.7	7D	SF		3	C		31		U
RAMY	23	1437	1437	1452	S07	E39	4219	06	26.5	15	SB		3	C		51		FE
RAMY	23	1549	1553	1610	S15	W47	4213	06	20.1	21	SN		3	C		46		U
HOLL	23	1550	1551	1559	S13	W47	4213	06	20.1	9	SN		3	C		39		
HOLL	23	1836	1838	1843	N02	E68		06	28.9	7	SF		3	C		16		
RAMY	23	2018	2023	2033	S10	W54	4213	06	19.8	15	SF		3	C		26		H
PALE	23	2200E	2200U	2227	N17	W01	4216	06	23.8	27D	SF		3	C		62		F
LEAR	24	0257	0300	0305	S09	W57	4213	06	19.8	8	SF		3	C		47		
LEAR	24	0313	0315	0329	S09	W57	4213	06	19.9	16	SF		3	C		24		K
LEAR	24	0313	0322	0329	S09	W57	4213	06	19.9	16	SF		3	C		26		K
LEAR	24	0631	0632	0639	S11	E29	4219	06	26.5	8	SF		3	C		25		F
LEAR	24	0653	0654	0720	S09	E31	4219	06	26.6	27	SN		3	C		104		F
BUCA	24	0655	0658	0720	S07	E31		06	26.6	25	1N			C	0658	215	2.6	
CATA	24	0655	0655	0655D	S06	E30		06	26.5	25D	S		2	P	0655	140	1.7	
WEND	24	0703	0709	0718	S06	E32		06	26.7	15	SF			C	0709	88	1.0	E
LEAR	24	0744	0745	0753	N15	W07	4216	06	23.8	9	SF		3	C		25		F
CATA	24	1035E	1035	1045D	N18	W08		06	23.8	10D	1		2	P	1035	281	3.0	
RAMY	24	1402	1413	1432	S12	W62	4213	06	19.9	30	SF		3	C		42		
RAMY	24	1613	1613	1619	N17	W09	4216	06	24.0	6	SF		3	C		20		
RAMY	24	1622	1627	1633	N17	W09	4216	06	24.0	11	SF		3	C		82		
RAMY	24	1652	1659	1706	N17	W09	4216	06	24.0	14	SB		3	C		74		
PALE	24	2219E	2219U	2241D	S08	E22	4219	06	26.6	22D	SF		3	C		25		
HOLL	25	0017	0018	0047	S12	E21	4219	06	26.6	30	SF		3	C		46		F
LEAR	25	0018	0018	0044	S13	E23	4219	06	26.7	26	SF		3	C		24		F
LEAR	25	0055	0056	0110	N12	W33	4214	06	22.6	15	SF		3	C		37		
HOLL	25	0055	0055	0104	N14	W34	4214	06	22.5	9	SF		2	C		22		
HOLL	25	1308	1310	1333	N16	W25	4216	06	23.6	25	SF		3	C		25		
HOLL	25	1424	1428	1435	N18	W06	4217	06	25.1	11	SF		3	C		36		
HOLL	25	1455	1456	1504	N13	W41	4214	06	22.5	9	SF		3	C		20		

H - ALPHA SOLAR FLARES

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	25	2017	2027U	2059D	S10	E10	4219	06	26.6	42D	SF		2	C		117		F
PALE	25	2029E	2030U	2049D	S09	E10	4219	06	26.6	20D	SF		3	C		86		
PALE	25	2051	2052U	2118D	S07	E89		07	2.5	27D	SN		3	C		58		
HOLL	25	2057E	2057U	2116D	S09	E83	4227	07	2.1	19D	SN		2	C		73		
HOLL	25	2207	2207	2214	N14	W46	4214	06	22.4	7	SF		3	C		25		
HOLL	25	2325	2326	2335	N19	W11	4217	06	25.1	10	SF		3	C		29		
LEAR	26	0436	0453	0503	S12	E90	4227	07	3.0	27	SN		3	C				
LEAR	26	0607	0608	0622	S08	E04	4219	06	26.6	15	SF		3	C		80		F
BUCA	26	0610E		0630	S07	E03		06	26.5	20D	SF			P	0610	129	1.3	E
CATA	26	0610	0610	0630	S08	E03		06	26.5	20	S		1	C	0610	112	1.2	
HOLL	26	1328	1334	1337	S09	E78	4227	07	2.4	9	SF		3	C		89		
RAMY	26	1331	1335	1344	S07	E78	4227	07	2.4	13	SF		3	C		46		
RAMY	26	1407	1414	1508	S13	E80	4227	07	2.6	61	3B		3	C		652		F
HOLL	26	1407	1412	1512	S13	E76	4227	07	2.3	65	2B		3	C		294		FH
RAMY	26	2023	2027	2031	S06	E76	4227	07	2.5	8	SF		3	C		25		
RAMY	26	2129	2156	2205D	N13	W56	4214	06	22.7	36D	SF		3	C		72		
HOLL	26	2134	2213	2245	N15	W56	4214	06	22.7	71	SF		3	C		32		F
HOLL	26	2305	2308	2327	S11	W05	4219	06	26.6	22	SN		3	C		83		F
PEKG	26	2309E	2312	2317D	S12	W05		06	26.6	8D	SF			P	2312	50	.5	E
LEAR	27	0152	0208	0238	N11	W14	4222	06	26.0	46	SF		3	C		59		
PALE	27	0156	0201	0214	N12	W15	4222	06	25.9	18	SF		3	C		29		F
PEKG	27	0159E	0204	0225D	N13	W14		06	26.0	26D	SN			P	0204	122	1.3	E
BUCA	27	0645E		0710	N16	W46		06	23.8	25D	SF			C	0645	43	.7	D
LEAR	27	0724	0729	0800	S12	W09	4219	06	26.6	36	SF		3	C		63		K
LEAR	27	0724	0741	0800	S12	W09	4219	06	26.6	36	SF		3	C		67		FK
BUCA	27	0725	0740U	0805	S12	W09		06	26.6	40	SN			C	0740	107	1.1	E
ISTA	27	0735		0755	S12	W10		06	26.6	20	SF							E
CATA	27	0735	0745	0815	S12	W10		06	26.6	40	S		2	C	0745	140	1.5	T
RAMY	27	1351	1356	1403	N15	W50	4216	06	23.8	12	SN		3	C		52		
HOLL	27	1354	1357	1400	N18	W46	4216	06	24.1	6	SF		3	C		50		
HOLL	27	1554	1554	1601	N15	W71	4214	06	22.3	7	SF		3	C		27		
HOLL	27	1649	1711	1732	S08	W16	4219	06	26.5	43	SF		3	C		77		F
HOLL	27	1746	1746	1801	S13	E58	4227	07	2.1	15	SF		3	C		19		
HOLL	27	1803	1807	1822	S08	E63	4227	07	2.5	19	SF		3	C		44		
PALE	27	1805	1805	1815	S07	E62	4227	07	2.4	10	SF		3	C		31		
HOLL	27	1847	1847	1905	N16	W54	4216	06	23.7	18	SF		3	C		18		
HOLL	27	1847	1900	1946	S12	E61	4227	07	2.4	59	SN		3	C		78		K
HOLL	27	1847	1913	1946	S12	E61	4227	07	2.4	59	1N		3	C		194		K
PALE	27	1855E	1916U	1937	S12	E62	4227	07	2.5	42D	SF		3	C		88		F
HOLL	27	1952	1956	2003	S09	W18	4219	06	26.5	11	SF		3	C		21		F
HOLL	27	2106	2112	2115D	S10	E58	4227	07	2.2	9D	SF		3	C		41		F
LEAR	28	0035	0039	0049	S20	E70	4230	07	3.4	14	SF		3	C				
LEAR	28	0125	0131	0203	S09	E54	4227	07	2.1	38	1N		3	C		175		F
PALE	28	0127	0131	0156	S09	E55	4227	07	2.2	29	SN		3	C		131		F
PEKG	28	0129	0131	0145	S09	E55		07	2.2	16	SB			C	0131	97	1.8	E
LEAR	28	0248	0254	0323	S08	E58	4227	07	2.5	35	1B		3	C		218		F
PEKG	28	0250	0254	0314	S07	E56		07	2.3	24	1B			C	0254	155	2.9	E
PALE	28	0253	0253	0314	S07	E56	4227	07	2.3	21	1N		3	C		201		
LEAR	28	0256	0302	0319	N15	W71	4214	06	22.7	23	SF		3	C		12		
RAMY	28	1222	1308	1354	S18	E66	4230	07	3.5	92	SN		3	C		107		K
RAMY	28	1222	1329	1354	S18	E66	4230	07	3.5	92	1N		3	C		118		K
RAMY	28	1324	1325	1328	N16	W57	4216	06	24.2	4	SF		3	C		31		
RAMY	28	1439	1440	1444	N16	W60	4216	06	24.1	5	SF		3	C		19		
HOLL	28	1439	1440	1444	N18	W59	4216	06	24.1	5	SF		3	C		46		
RAMY	28	1440	1507	1536	S18	E64	4230	07	3.5	56	SN		3	C		67		
RAMY	28	1523	1550	1552D	N16	W61	4216	06	24.0	29D	1F		3	C		125		F
PALE	28	1704	1705	1722	S17	E62	4230	07	3.4	18	SF		3	C		49		
HOLL	28	1722	1722	1731	N18	W62	4216	06	24.0	9	SF		3	C		15		
PALE	28	1744	1758	1812	N16	W62	4216	06	24.0	28	SF		3	C		15		
RAMY	28	1751	1815	1825	N16	W62	4216	06	24.0	34	SN		3	C		16		
HOLL	28	1751	1759	1810	N18	W62	4216	06	24.0	19	SF		3	C		20		
HOLL	28	1814	1814	1822	N15	W63	4216	06	24.0	8	SN		3	C		32		
PALE	28	1835	1835	1845D	N16	W63	4216	06	24.0	10D	SF		3	C		14		
HOLL	28	1837	1839	1846	N18	W63	4216	06	24.0	9	SF		3	C		21		
PALE	28	2037	2039	2048	S17	E62	4230	07	3.6	11	SF		3	C		28		
HOLL	28	2357	2358	0017	N13	W40	4222	06	26.0	20	SF		3	C		32		F
HOLL	29	0030	0030	0044	N18	W38	4220	06	26.1	14	SF		3	C		20		

H - ALPHA SOLAR FLARES

JUNE 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	29	0038E	0038U	0145D	N09	W57	4222	06	24.7	67D	SF		2	C		120		
HOLL	29	0044	0047	0052	N19	W67	4216	06	23.9	8	SF		3	C		19		
LEAR	29	0343E	0346	0501	N14	W46	4222	06	25.7	78D	SF		3	C		44		FK
LEAR	29	0343E	0421	0501	N14	W46	4222	06	25.7	78D	SF		3	C		118		K
LEAR	29	0358	0402	0417	S07	E41	4227	07	2.2	19	1N		3	C		180		FH
PALE	29	0358	0402	0417	S07	E42	4227	07	2.3	19	SN		3	C		173		FH
PEKG	29	0400E	0401	0406	S07	E43		07	2.4	6D	SN			P	0401	80	1.1	E
PEKG	29	0408	0410	0416	S08	E43		07	2.4	8	SF			C	0410	34	.5	D
PALE	29	0422	0427	0429D	N11	W43	4222	06	25.9	7D	SF		3	C		64		F
PEKG	29	0425	0435	0455	N12	W44		06	25.9	30	SN			C	0435	88	1.3	E
LEAR	29	0549E	0553U	0557	N10	W44	4222	06	25.9	8D	SF		2	C		24		
LEAR	29	0700E	0704U	0704D	S20	E46	4230	07	2.8	4D	SF		2	C		39		
LEAR	29	0845	0859U	0900D	N12	W45	4222	06	26.0	15D	SF		3	C		47		F
RAMY	29	1247	1252	1321	S11	E38	4227	07	2.4	34	SF		3	C		26		F
RAMY	29	1315	1323	1350	N10	W49	4222	06	25.9	35	SN		3	C		118		
HOLL	29	1558	1559	1603	N12	W51	4222	06	25.8	5	SF		3	C		19		F
RAMY	29	1605	1612	1627	S19	E50	4230	07	3.5	22	SF		3	C		34		
PALE	29	1757	1758	1803	S18	E47	4230	07	3.3	6	SF		3	C		38		
HOLL	29	1851	1851	1856	N14	W48	4222	06	26.2	5	SN		3	C		22		F
HOLL	29	1946	1951	1957	S20	E49	4230	07	3.6	11	SN		3	C		79		
PALE	29	1947	1952	1959	S18	E50	4230	07	3.6	12	SN		3	C		74		
HOLL	29	2035	2036	2041	S22	E45	4230	07	3.3	6	SF		3	C		29		
HOLL	29	2125E	2126U	2147	N09	W52	4222	06	26.0	22D	SF		2	C		70		
PALE	29	2342	2349	0015	S11	E32	4227	07	2.4	33	SN		3	C		144		F
HOLL	29	2348	2352	0005	S07	E28	4227	07	2.1	17	SN		2	C		40		F
HOLL	29	2348	2352	0005	S11	E32	4227	07	2.4	17	SN		2	C		40		F
HOLL	30	0038E	0038U	0145D	N09	W57	4222	06	25.7	67D	SF		2	C		120		
MANI	30	0133	0136	0146	S08	E27		07	2.1	13	SF		1	V		50	.6	F
PALE	30	0134	0134	0146	S09	E28	4227	07	2.2	12	SF		3	C		42		F
MANI	30	0136	0138	0144	N11	W55		06	25.9	8	SF		1	V		35	.6	
PALE	30	0137	0139	0142	N11	W56	4222	06	25.9	5	SF		3	C		22		
LEAR	30	0648	0655U	0655D	N09	W58	4222	06	25.9	7D	SF		3	C		41		F
CATA	30	0650	0650	0700	N14	W57		06	26.0	10	1		2	C	0650	112	2.1	
PALE	30	1744	1747	1754	N10	W64	4222	06	25.9	10	SF		3	C		38		F
RAMY	30	1744	1750	1802	N10	W65	4222	06	25.9	18	SF		3	C		25		
HOLL	30	1745	1748	1801	N12	W64	4222	06	25.9	16	SF		3	C		37		F
HOLL	30	1810	1817	1850	S11	E21	4227	07	2.3	40	SB		3	C		154		FH
PALE	30	1812	1821U	1843	S11	E21	4227	07	2.3	31	SN		3	C		90		
PALE	30	2335	2335	2345D	N11	W68	4222	06	25.9	10D	SF		3	C		16		
HOLL	30	2348	2352	0005	S07	E28	4227	07	3.1	17	SN		2	C		40		F

"Remarks":

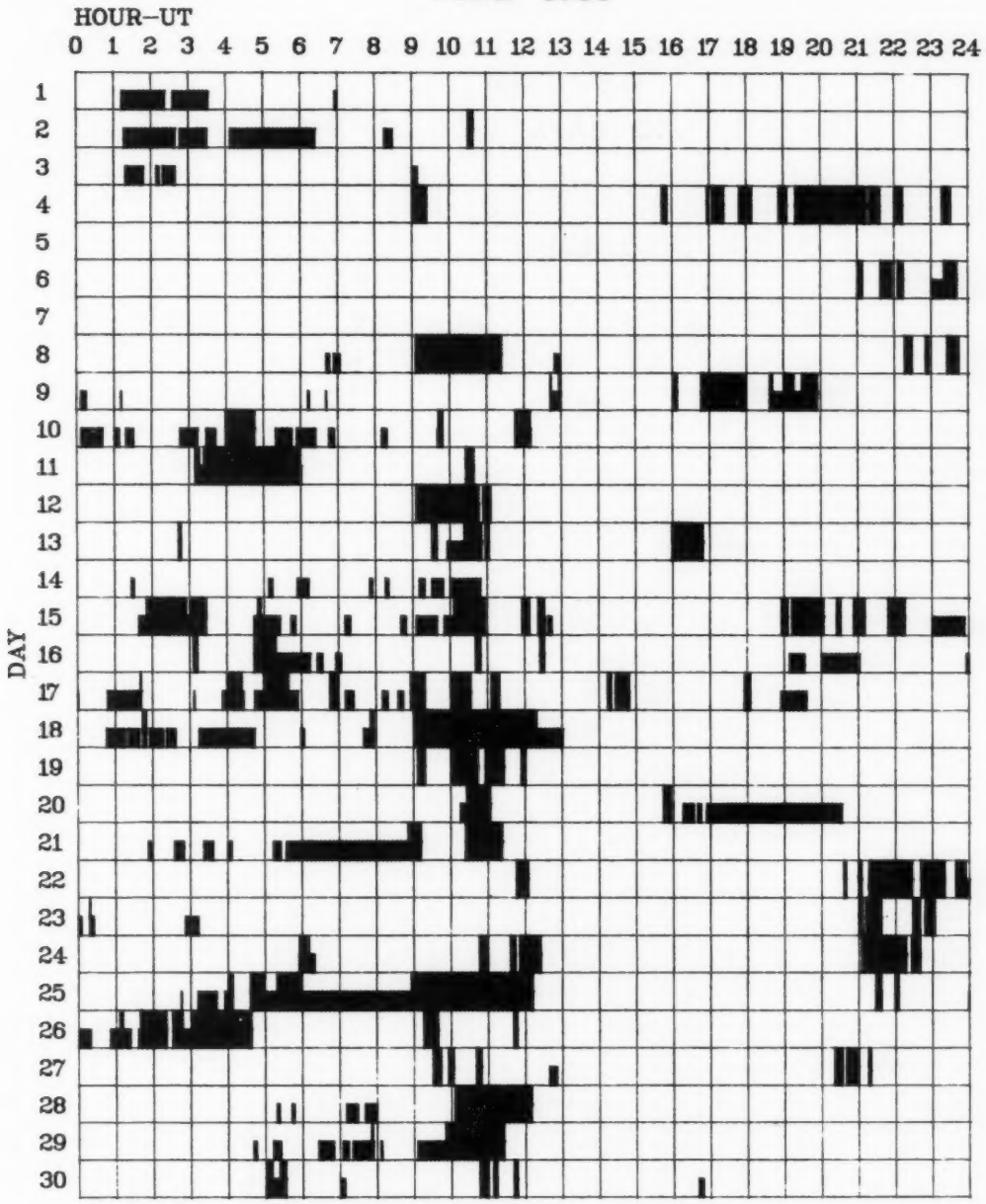
A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of Ca II.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

The 4-digit number appearing under "Remarks" denotes the calcium plage region number assigned by the Space Environment Services Center in Boulder, Colorado.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JUNE 1983



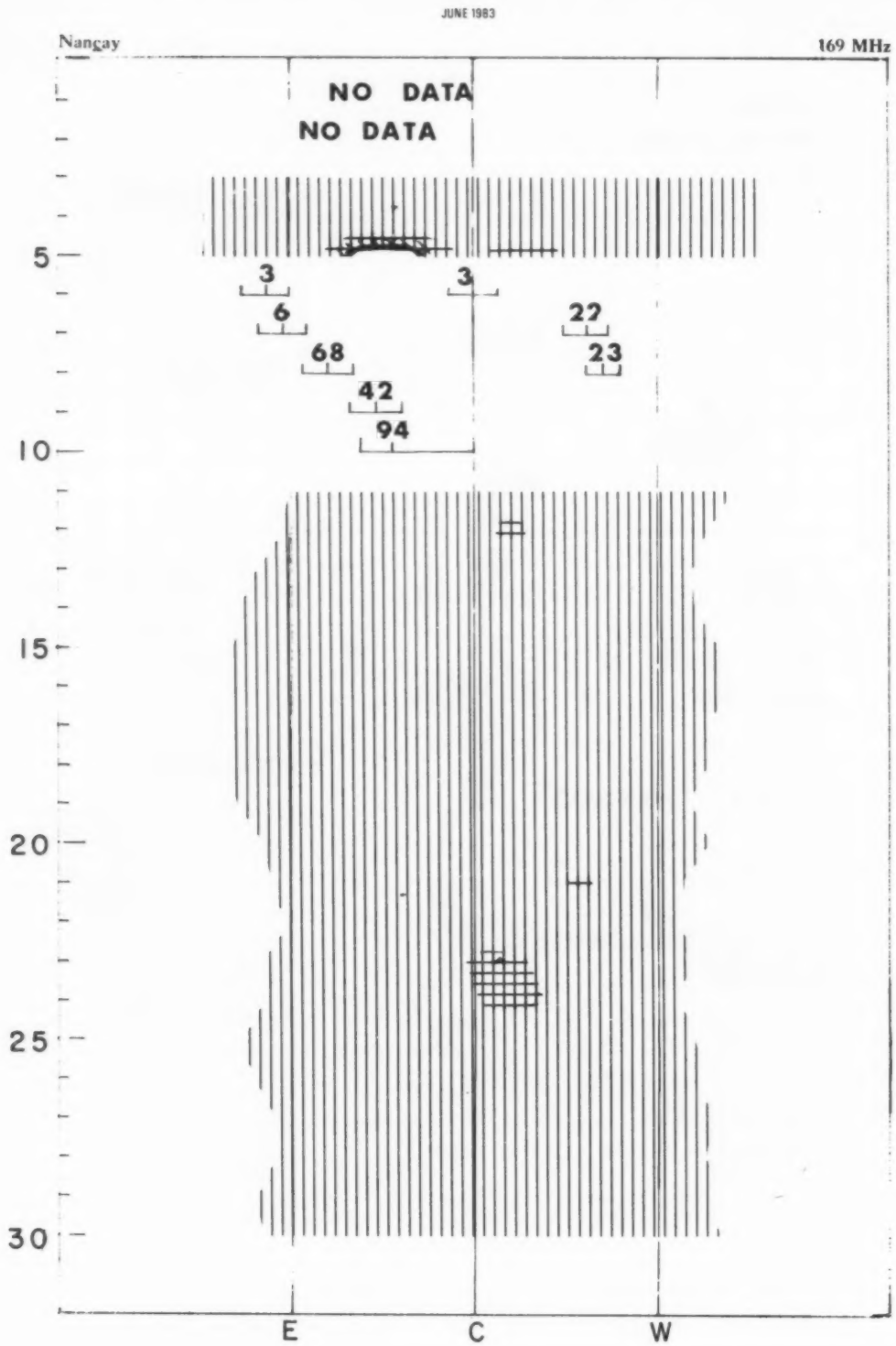
Observatories included in total patrol:

Bucharest	Holloman	Learmonth	Palehua	Ramey
Catania	Istanbul	Manila	Purple Mt.	Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

26
Jun 83

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

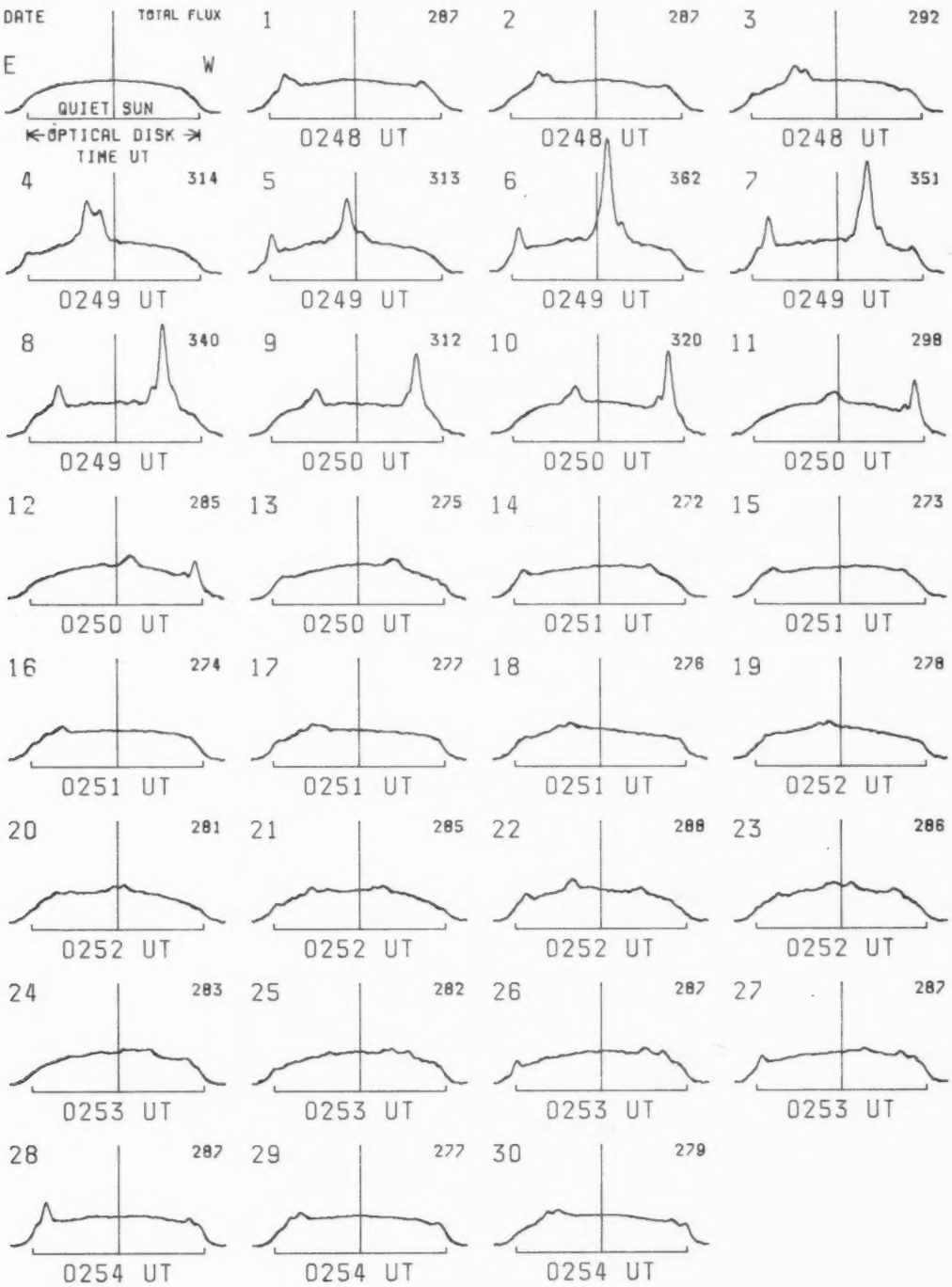


EAST-WEST SOLAR SCANS

JUNE 1983

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



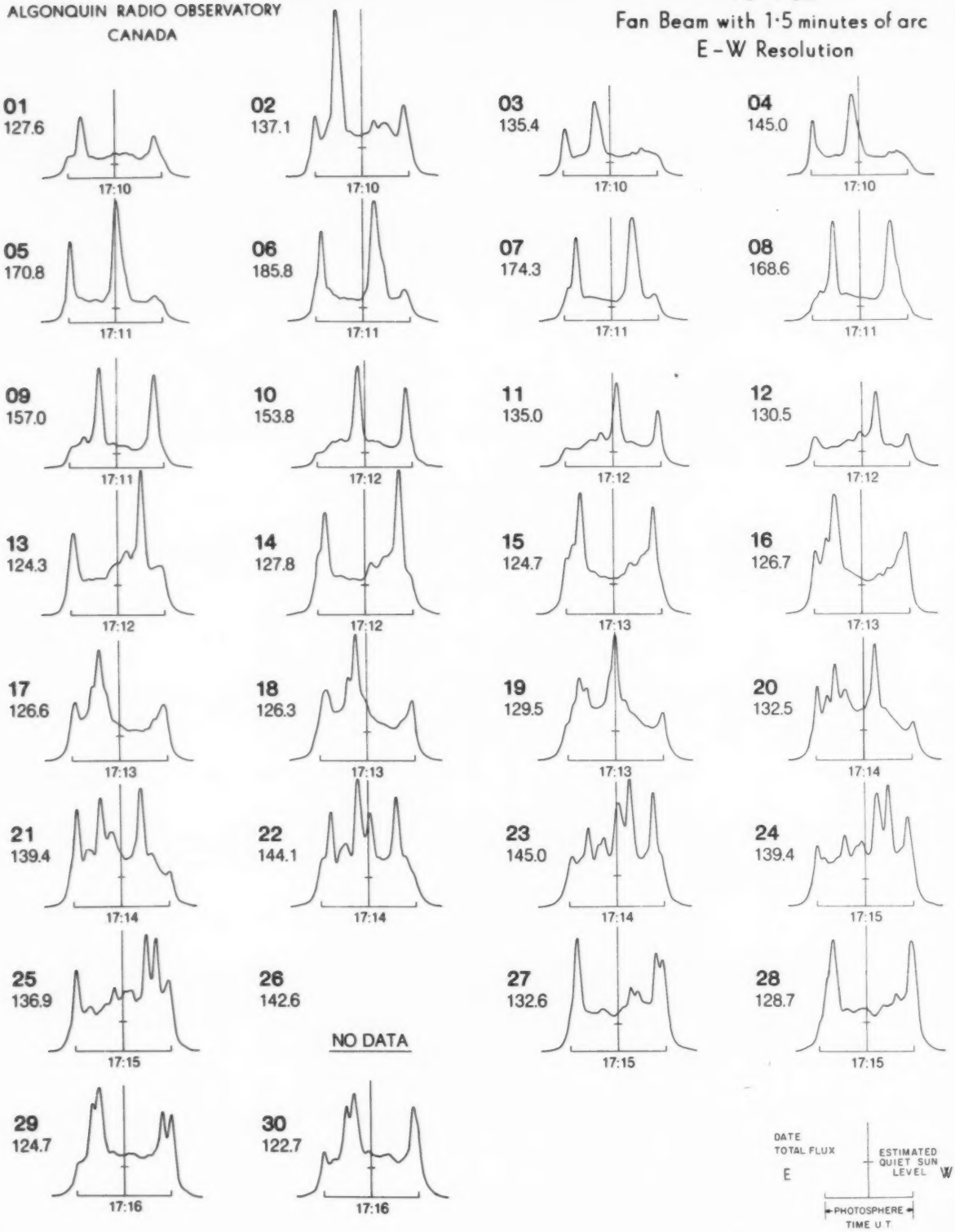
28
Jun 83

EAST-WEST SOLAR SCANS

JUNE 1983

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution

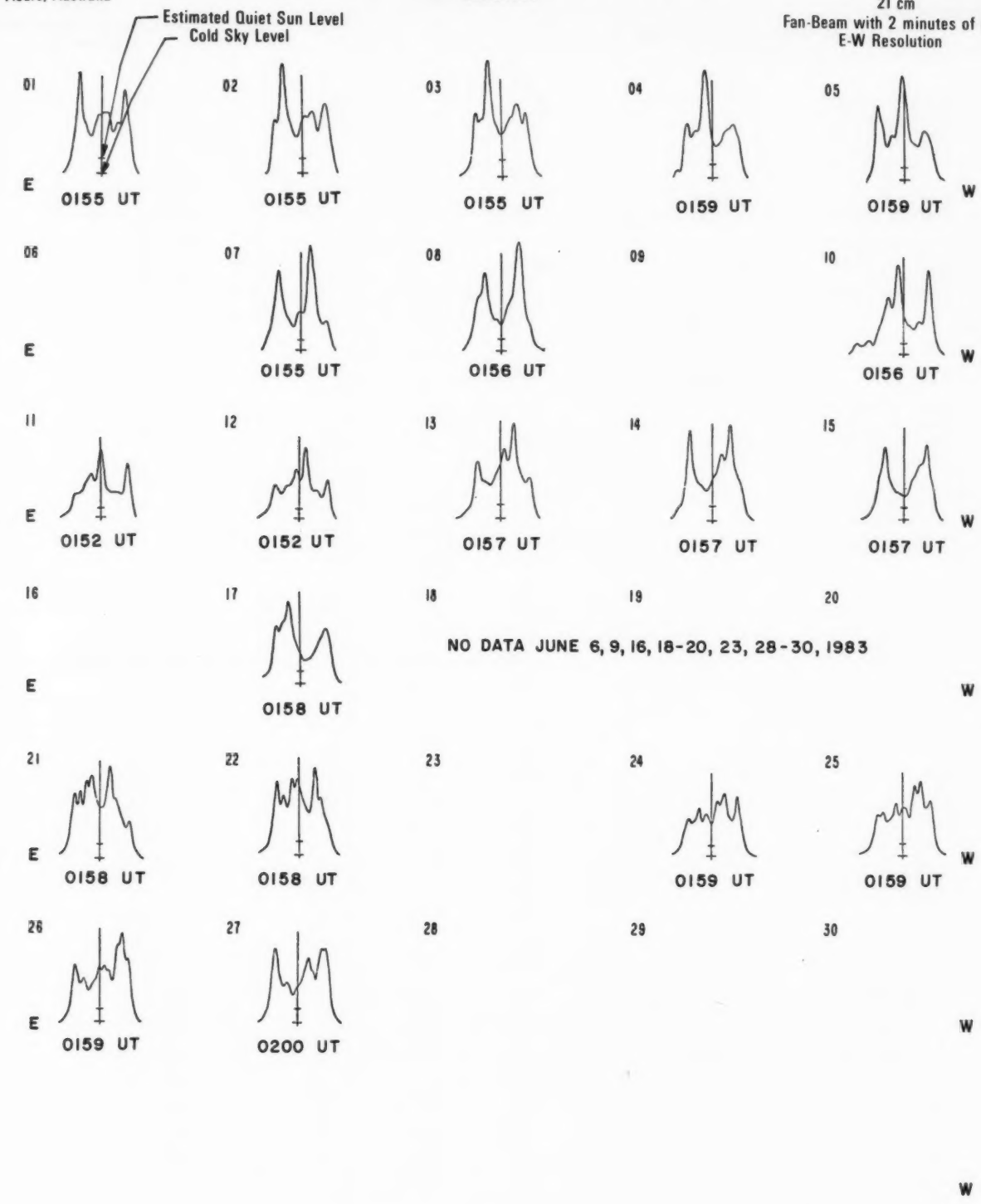


EAST-WEST SOLAR SCANS

JUNE 1983

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

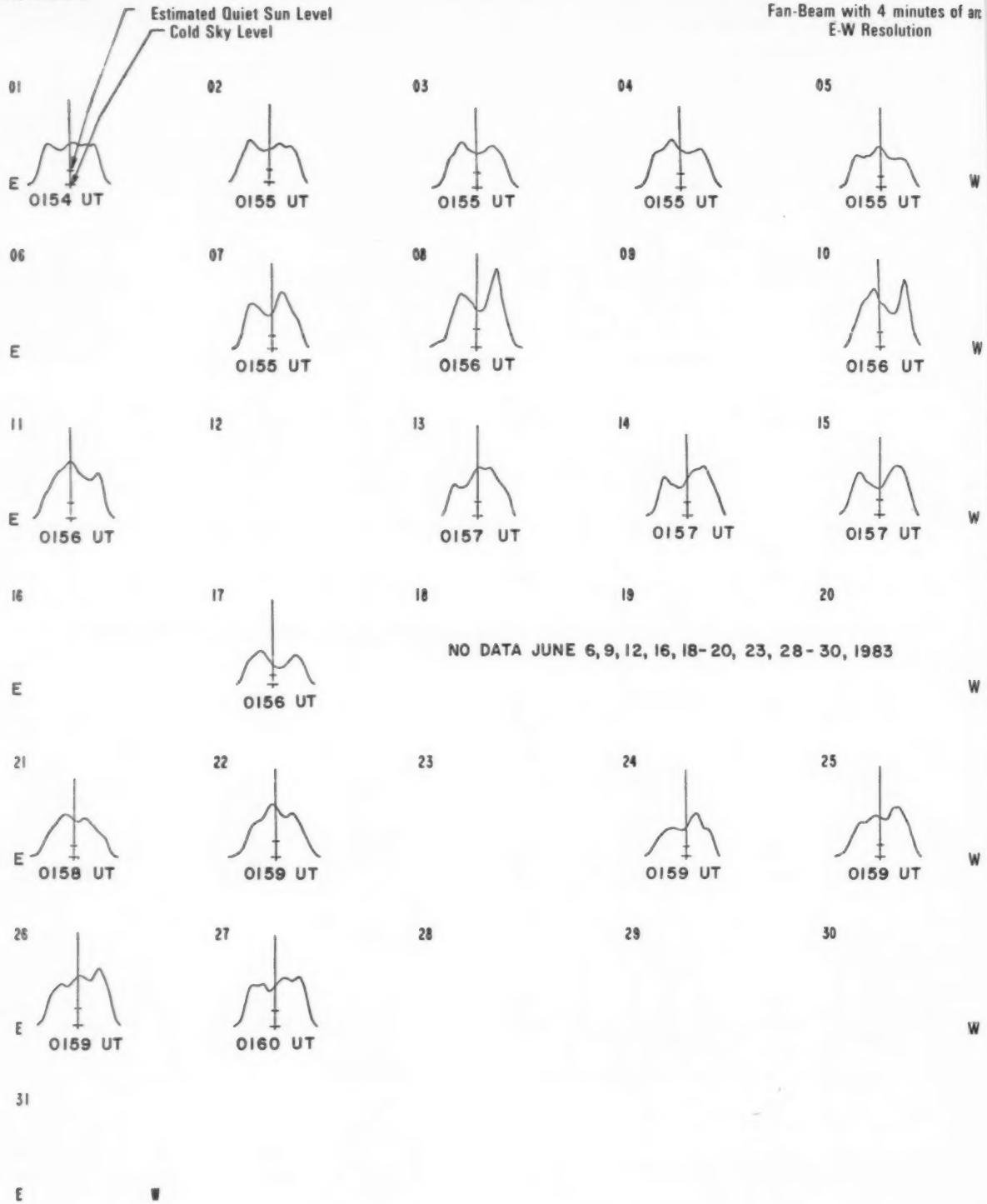


EAST-WEST SOLAR SOLAR SCANS

JUNE 1983

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	2800	OTTA	21 GRF	1247.0	1255.0	195.0	7.8	2.2		
	2800	OTTA	1 S	1248.5	1250.0	5.0	8.0	3.7		
	2695	SGMR	4 S/F	1249.1	1250.1	6.9	1.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	1249.5	1250.1	2.8	11.0			QL=6 ST=2 TYP=3
	8800	ATHN	4 S/F	1249.5	1250.1	3.5	7.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	2050.0	2215.0	190.0	4.4	2.2		
02	2800	OTTA	21 GRF	1435.0	1530.0	180.0	5.8	2.6		
	2800	OTTA	1 S	1524.0	1526.0	6.0	5.8	3.0		
	8800	ATHN	4 S/F	1524.3	1525.1	3.2	28.0			QL=6 ST=2 TYP=3
	2800	OTTA	3 S	1534.0	1535.0	5.0	11.2	3.2		
	2695	ATHN	8 S	1534.3	1535.1	2.0	17.0			QL=6 ST=2 TYP=3
	8800	ATHN	8 S	1534.5	1535.1	1.1	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	8 S	1816.1	1816.3	0.3	2.6			
	2695	SGMR	20 GRF	1900.0	1947.0	50.6	24.0			QL=6 ST=2 TYP=2
	2800	OTTA	20 GRF	1910.0	1930.0	50.0	2.8	1.5		
	2800	OTTA	20 GRF	2135.0	2210.0	145.0	2.6	1.3		
03	2695	PENT	20 GRF	0025.0	0038.0	30.0	5.6	2.0		
	2800	OTTA	27A RF	1110.0		350.0	7.0	5.2		
	2800	OTTA	24 R	1110.0	1155.0	45.0	7.0	3.5		
	2695	SGMR	8 S	1142.3	1142.6	.7	36.0			QL=6 ST=3 TYP=3
	8800	ATHN	4 S/F	1142.5	1142.8	10.1	43.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	1142.5	1142.8	7.0	32.0			QL=6 ST=2 TYP=3
	8800	SGMR	8 S	1142.5	1142.8	.8	41.0			QL=6 ST=3 TYP=3
	2800	OTTA	24P R	1155.0		190.0	7.0			
	2800	OTTA	4 S/F	1254.0	1254.4	2.0	31.0	7.8		
	2695	SGMR	8 S	1254.3	1254.5	.5	38.0			QL=6 ST=2 TYP=3
	2695	SGMR	8 S	1303.6	1303.8	.5	42.0			QL=6 ST=2 TYP=3
	2800	OTTA	8 S	1336.8	1337.0	0.6	2.2			
	8800	ATHN	8 S	1336.8	1337.3	1.5	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	4 S/F	1423.0	1423.7	3.5	37.0	9.2		
	2800	OTTA	2 S/F	1423.0	1423.9	1.2	2.8	1.0		
	2800	OTTA	2 S/F	1428.0	1428.2	2.0	6.2	1.6		
	2695	SGMR	20 GRF	1448.5	1452.1	20.6	33.0			QL=6 ST=2 TYP=2
	2800	OTTA	26 FAL	1505.0	1700.0	115.0	-7.0	-3.0		
	2695	SGMR	20 GRF	1509.1	1510.1	56.5	39.0			QL=6 ST=2 TYP=2
	2800	OTTA	22 GRF	1735.0	1825.0	145.0	3.4	1.7		
	2800	OTTA	240 R	2040.0	2050.0	10.0	2.8	1.6		
	2800	OTTA	20 GRF	2100.0	2220.0	180.0	4.4	2.2		
04	2695	PENT	20 GRF	0030.0	0140.0	80.0D	6.0			
	8800	PALE	4 S/F	0216.1	0217.8	10.0	38.0			QL=6 ST=2 TYP=3
	2800	OTTA	1S	1335.0	1336.0	5.0	3.0	1.3		
	2800	OTTA	20 GRF	1342.0	1345.0	18.0	2.2	1.1		
	2800	OTTA	8S	1654.9	1655.0	0.3	1.6			
	2800	OTTA	1S	1656.0	1656.5	1.0	2.6	1.3		
	2800	OTTA	240 R	1755.0	1810.0	15.0	2.8			
	2800	OTTA	20 GRF	1815.0	1822.0	15.0	2.0	1.0		
	2800	OTTA	4 S/F	1949.0	1955.8	15.0	21.0	10.5		
	8800	SGMR	8 S	1949.8	1950.8	1.3	25.0			QL=6 ST=2 TYP=3
	2695	SGMR	8 S	1950.6	1952.8	2.2D	13.0			QL=6 ST=2 TYP=3
	8800	PALE	4 S/F	1952.6	1953.1	3.7	42.0			QL=6 ST=2 TYP=3
	2800	OTTA	29 PBI	2004.0	2004.0	50.0	6.2	3.1		
	2800	OTTA	1S	2147.0	2147.5	1.3	7.4	4.8		
	2800	OTTA	240 R	2228.0	2240.0	12.0	3.6	1.8		
	2695	PENT	20 GRF	2340.0	0025.0	130.0	5.0	2.3		
05	8800	LEAR	8 S	0001.3	0002.1	1.5	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	8S	1228.0	1228.2	0.5	3.2	1.6		
	2800	OTTA	240 R	1315.0	1335.0	20.0	3.2	1.8		
	2695	PENT	1S	1412.8	1413.8	2.0	2.4	1.2		
	2800	OTTA	8S	1442.9	1443.0	0.5	3.8	1.9		
	2800	OTTA	27AFRF	1530.0		315.0	6.6	5.8		
	2800	OTTA	24R	1530.0	1542.0	12.0	6.6	1.4		
	8800	SGMR	4 S/F	1540.1	1542.0	6.5	21.0			QL=6 ST=2 TYP=3
	2800	OTTA	24P R	1542.0		268.0	6.6			
	2800	OTTA	4 S/F	1557.5	1559.7	4.0	11.0	6.2		
	2695	SGMR	8 S	1558.3	1559.5	1.7	18.0			QL=6 ST=2 TYP=3
	2800	OTTA	29 PBI	1601.5	1601.5	8.0	3.2	1.6		
	8800	SGMR	4 S/F	1704.0	1705.6	8.6	21.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
05	8800	SGMR	20 GRF	1731.6	1741.1	13.0	21.0			QL=6 ST=2 TYP=2
	8800	SGMR	20 GRF	1752.0	1754.3	13.0	30.0			QL=6 ST=2 TYP=2
	2800	OTTA	8S	1802.2	1802.4	0.8	4.8	2.4		
	8800	SGMR	8 S	1814.6	1814.8	.4	24.0			QL=6 ST=2 TYP=3
	2800	OTTA	21 GRF	1934.0	1941.0	15.0	2.0	1.0		
	2800	OTTA	1 S	1937.0	1940.0	4.0	6.4	4.2		
	8800	PALE	8 S	1937.3	1937.8	.7	17.0			QL=6 ST=2 TYP=3
	8800	SGMR	20 GRF	1937.3	1939.8	6.7	30.0			QL=6 ST=2 TYP=2
	2800	OTTA	1S	1959.0	1959.4	1.0	5.2	2.6		
	2800	OTTA	26 FAL	2010.0	2045.0	35.0	-4.6	-2.3		
	8800	PALE	8 S	2127.1	2128.3	1.9	27.0			QL=6 ST=2 TYP=3
	2800	OTTA	21 GRF	2155.0	2227.0	130.0	11.2	5.0		
	2800	OTTA	2 S/F	2217.0	2218.0	4.0	6.4	4.8		
06	2695	PENT	240 R	0010.0	0020.0	10.0	4.2	1.2		
	2695	LEAR	20 GRF	0132.0	0157.5	70.0	15.0			QL=6 ST=2 TYP=2
	8800	LEAR	4 S/F	0135.0	0200.3	65.0	22.0			QL=6 ST=2 TYP=3
⌐	8800	LEAR	47 GB	0303.6	0304.0	10.7	87.0			QL=6 ST=2 TYP=5
⌙	8800	PALE	47 GB	0303.6	0304.0	4.9	100.0			QL=6 ST=2 TYP=5
	8800	PALE	47 GB	0308.5	0308.6	4.1	260.0			QL=6 ST=2 TYP=5
⌐	8800	ATHN	4 S/F	0423.6	0424.6	5.9	35.0			QL=6 ST=3 TYP=3
⌙	8800	LEAR	47 GB	0424.0	0424.6	21.0	50.0			QL=6 ST=2 TYP=5
⌐	8800	LEAR	47 GB	0514.8	0516.1	2.3	58.0			QL=6 ST=2 TYP=5
⌙	8800	ATHN	47 GB	0514.8	0516.1	5.3	66.0			QL=6 ST=2 TYP=5
⌐	2695	LEAR	20 GRF	0520.8	0524.0	12.2	10.0			QL=6 ST=2 TYP=2
⌙	8800	LEAR	20 GRF	0524.5	0525.6	8.5	15.0			QL=6 ST=2 TYP=2
⌐	2695	LEAR	4 S/F	0533.0	0536.8	7.1	23.0			QL=6 ST=2 TYP=3
⌙	8800	LEAR	4 S/F	0533.0	0536.8	6.5	35.0			QL=6 ST=2 TYP=3
⌐	8800	ATHN	4 S/F	0533.5	0534.3	5.1	35.0			QL=6 ST=2 TYP=3
⌙	2695	ATHN	4 S/F	0533.5	0534.3	5.0	23.0			QL=6 ST=2 TYP=3
⌐	8800	ATHN	47 GB	0545.5	0547.1	4.0	70.0			QL=6 ST=3 TYP=5
├	8800	LEAR	47 GB	0545.8	0547.3	5.3	100.0			QL=6 ST=2 TYP=5
├	2695	ATHN	47 GB	0546.0	0547.1	3.8	81.0			QL=6 ST=3 TYP=5
⌙	2695	LEAR	47 GB	0546.1	0547.5	7.4	110.0			QL=6 ST=2 TYP=5
	8800	LEAR	47 GB	0637.8	0638.1	2.8	52.0			QL=6 ST=2 TYP=5
	8800	LEAR	47 GB	0751.8	0752.1	2.3	56.0			QL=6 ST=2 TYP=5
⌐	8800	ATHN	47 GB	0823.3	0825.5	6.8	230.0			QL=2 ST=2 TYP=5
⌙	8800	LEAR	47 GB	0825.3	0825.6	1.5	219.0			QL=6 ST=2 TYP=5
	2800	OTTA	240 R	1200.0	1202.0	2.0	3.2	1.6		
	2800	OTTA	21 GRF	1210.0	1240.0	72.0	3.2	1.4		
	8800	SGMR	8 S	1250.0	1250.1	.3	27.0			QL=6 ST=2 TYP=3
	2800	OTTA	8S	1319.8	1320.0	0.6	6.4	4.2		
	2800	OTTA	28 PRE	1329.5	1336.0	6.5	9.0	6.0		
	8800	ATHN	49 GB	1329.5	1340.3	14.8	600.0			QL=2 ST=3 TYP=6
	8800	SGMR	47 GB	1329.6	1330.8	23.2	73.0			QL=6 ST=3 TYP=5
	2695	ATHN	47 GB	1330.6	1340.3	15.5	110.0			QL=2 ST=3 TYP=5
	2800	OTTA	46F C	1336.0	1401.0	31.0	197.0	59.0		
	2695	SGMR	47 GB	1336.6	1339.5	16.2	54.0			QL=6 ST=3 TYP=5
⌐	2695	ATHN	47 GB	1349.0	1350.3	4.3	230.0			QL=2 ST=2 TYP=5
⌙	8800	ATHN	47 GB	1349.8	1350.6	1.8	100.0			QL=2 ST=2 TYP=5
⌐	8800	SGMR	47 GB	1352.8	1353.0	12.5	94.0			QL=6 ST=2 TYP=5
⌙	2695	SGMR	20 GRF	1352.8	1353.0	12.5	52.0			QL=6 ST=2 TYP=2
⌐	2695	ATHN	47 GB	1356.8	1400.3	10.5	230.0			QL=2 ST=2 TYP=5
⌙	8800	ATHN	47 GB	1358.1	1400.1	16.7	100.0			QL=2 ST=2 TYP=5
⌐	2695	SGMR	47 GB	1405.3	1405.3	21.3	130.0			QL=6 ST=2 TYP=5
⌙	8800	SGMR	47 GB	1405.3	1405.3	21.3	100.0			QL=6 ST=2 TYP=5
	2800	OTTA	29 PBI	1417.0	1417.0	175.0	20.0	5.0		
	8800	SGMR	20 GRF	1426.6	1426.6	11.7	43.0			QL=6 ST=2 TYP=2
	2695	SGMR	47 GB	1426.6	1427.3	20.4	66.0			QL=6 ST=2 TYP=5
	2695	SGMR	47 GB	1447.0	1448.1	7.6	66.0			QL=6 ST=2 TYP=5
	8800	SGMR	4 S/F	1518.6	1519.6	3.5	21.0			QL=6 ST=2 TYP=3
	2800	OTTA	21 GRF	1735.0	1800.0	40.0	3.2	1.6		
⌐	8800	PALE	47 GB	1742.8	1743.0	3.8	110.0			QL=6 ST=2 TYP=5
⌙	8800	SGMR	47 GB	1742.8	1743.0	.8	99.0			QL=6 ST=2 TYP=5
	2800	OTTA	8S	1743.0	1743.3	0.6	2.6	1.3		
⌐	8800	PALE	8 S	1802.1	1802.5	1.0	46.0			QL=6 ST=2 TYP=3
⌙	8800	SGMR	8 S	1802.3	1802.5	.5	37.0			QL=6 ST=2 TYP=3
	2800	OTTA	22 GRF	1905.0	2000.0	125.0	4.2	2.5		
	8800	PALE	8 S	1920.8	1920.8	.5	46.0			QL=6 ST=2 TYP=3
	8800	PALE	49 GB	1923.3	1924.3	4.5	1199.0			QL=6 ST=2 TYP=6
	2800	OTTA	20 GRF	2125.0	2135.0	25.0	3.0	1.5		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
06	8800	SGMR	4	S/F	2126.1	2128.3	7.9	49.0			QL=6 ST=2 TYP=3
	2800	OTTA	1S		2225.0	2227.0	8.0	3.2	1.4		
	2695	PENT	20	GRF	2257.0	2300.0	18.0	2.8	1.4		
07	2695	PENT	21	GRF	0010.0	0028.0	100.0	10.4	4.8		
	8800	LEAR	20	GRF	0023.1	0027.8	15.4	16.0			QL=6 ST=2 TYP=2
	2695	LEAR	20	GRF	0025.1	0035.1	20.9	16.0			QL=6 ST=2 TYP=2
	2695	PENT	1S		0125.0	0128.0	6.0	3.4	1.7		
	2695	ATHN	4	S/F	0354.3	0355.1	5.0	15.0			QL=5 ST=2 TYP=3
	8800	ATHN	4	S/F	0418.3	0418.6	4.8	44.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0646.3	0650.1	6.2	18.0			QL=5 ST=2 TYP=3
	8800	LEAR	20	GRF	0708.3	0718.5	16.7	11.0			QL=6 ST=2 TYP=2
	8800	ATHN	4	S/F	0709.6	0711.6	3.0	18.0			QL=5 ST=2 TYP=3
	8800	LEAR	8	S	0735.0	0735.1	.3	13.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0834.0	0837.6	10.0	20.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0834.0	0837.8	10.0	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	20	GRF	0834.1	0837.8	15.9	24.0			QL=6 ST=2 TYP=2
	2695	LEAR	20	GRF	0834.3	0837.6	16.3	23.0			QL=6 ST=2 TYP=2
	2800	OTTA	23	GRF	1405.0	1550.0	175.0	8.6	4.2		
	2695	SGMR	4	S/F	1409.8	1411.8	2.3	29.0			QL=6 ST=2 TYP=3
	8800	ATHN	47	GB	1411.1	1411.8	2.5	130.0			QL=6 ST=3 TYP=5
	8800	SGMR	47	GB	1411.5	1411.6	.8	169.0			QL=6 ST=2 TYP=5
	2695	PENT	3S		1411.5	1411.8	2.0	31.0	7.0		
	2695	ATHN	8	S	1411.6	1411.8	2.0	30.0			QL=6 ST=3 TYP=3
	2800	OTTA	20	GRF	1810.0	1900.0	130.0	3.2	1.6		
	2800	OTTA	1S		2025.0	2028.0	5.0	2.0	1.0		
	8800	SGMR	4	S/F	2039.1	2040.3	2.7	32.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	2039.3	2040.8	1.7	19.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	2050.0	2100.0	40.0	5.6	3.0		
	8800	PALE	4	S/F	2054.8	2057.3	7.0	35.0			QL=6 ST=2 TYP=3
	8800	SGMR	4	S/F	2055.3	2057.3	3.5	31.0			QL=6 ST=2 TYP=3
08	2695	LEAR	8	S	0034.8	0035.1	1.0	15.0			QL=6 ST=2 TYP=3
	2695	PENT	20	GRF	0045.0	0113.0	60.0D	14.6			
	8800	PALE	20	GRF	0056.5	0059.1	12.5	23.0			QL=6 ST=2 TYP=2
	8800	LEAR	20	GRF	0059.6	0111.3	34.4	26.0			QL=6 ST=2 TYP=2
	2695	LEAR	20	GRF	0103.3	0112.3	30.7	15.0			QL=6 ST=2 TYP=2
	8800	PALE	47	GB	0109.0	0112.1	13.6	54.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	0122.6	0122.6	13.9	59.0			QL=6 ST=2 TYP=5
	8800	LEAR	8	S	0450.0	0450.5	1.6	7.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0602.3	0604.8	15.7	39.0			QL=6 ST=3 TYP=3
	2695	LEAR	8	S	0604.6	0605.3	1.9	7.0			QL=6 ST=2 TYP=3
	8800	LEAR	47	GB	0742.6	0743.8	3.5	300.0			QL=6 ST=2 TYP=5
	2695	LEAR	8	S	0744.1	0744.1	.2	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	26A	FAL	1120.0	1610.0	290.0	-20.4	-10.2		
	2800	OTTA	21	GRF	1200.0	1300.0	120.0	13.2	5.5		
	2695	SGMR	4	S/F	1302.3	1303.6	3.8	13.0			QL=6 ST=2 TYP=3
	2800	OTTA	1S		1302.5	1303.8	4.0	7.4	2.8		
	8800	SGMR	4	S/F	1303.0	1303.6	2.8	13.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1920.0	1927.0	30.0	2.6	1.4		
	2800	OTTA	20	GRF	2105.0	2125.0	100.0	3.2	2.4		
	8800	SGMR	8	S	2127.5	2128.3	1.6	47.0			QL=6 ST=2 TYP=3
09	2695	LEAR	20	GRF	0210.0	0212.5	4.3	10.0			QL=6 ST=2 TYP=2
	8800	LEAR	20	GRF	0211.6	0212.3	17.9	8.0			QL=6 ST=2 TYP=2
	8800	LEAR	4	S/F	0229.5	0229.8	3.5	13.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1015.1	1015.3	1.0	35.0			QL=6 ST=2 TYP=3
	2800	OTTA	22	GRF	1225.0	1240.0	45.0	4.6	2.2		
	2800	OTTA	20	GRF	1625.0	1700.0	70.0	3.8	1.8		
	2800	OTTA	21	GRF	1805.0	1950.0	380.0	9.8	3.8		
	8800	SGMR	8	S	1820.6	1820.8	.5	22.0			QL=6 ST=3 TYP=3
	2800	OTTA	1S		2051.5	2051.7	9.0	2.0	1.0		
	2800	OTTA	46F	C	2158.0	2203.2	8.0	147.0	26.4		
	8800	SGMR	47	GB	2158.1	2158.6	1.0	110.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	2158.1	2158.6	1.2	139.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	2158.1	2158.8	1.2	80.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	2203.0	2203.3	.6	58.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	2203.0	2203.3	4.1	78.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	2203.1	2203.3	.7	67.0			QL=6 ST=2 TYP=5
	2800	OTTA	29	PBI	2206.0	2206.0	25.0	9.6	2.4		
10	8800	LEAR	4	S/F	0211.3	0212.8	9.5	45.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
10	8800	PALE	8 S	0212.3	0213.0	1.8	48.0			QL=6 ST=2 TYP=3
	8800	LEAR	4 S/F	0612.0	0613.0	3.3	19.0			QL=6 ST=2 TYP=3
	2800	OTTA	26A FAL	1050.0	1910.0	500.0	-14.6			
	2800	OTTA	21 GRF	1200.0	1424.0	420.0	24.4	11.0		
	2695	SGMR	47 GB	1216.1	1216.3	19.5	50.0			QL=5 ST=3 TYP=5
	2695	SGMR	20 GRF	1235.6	1237.6	15.0	71.0			QL=6 ST=2 TYP=2
	2695	SGMR	20 GRF	1250.6	1250.8	8.0	27.0			QL=5 ST=2 TYP=2
	2695	SGMR	20 GRF	1301.1	1302.8	13.5	55.0			QL=6 ST=2 TYP=2
	2695	SGMR	20 GRF	1314.6	1314.8	11.2	40.0			QL=6 ST=2 TYP=2
	2800	OTTA	4 S/F	1330.0	1331.5	10.0	122.0	17.0		
	8800	ATHN	47 GB	1330.1	1331.6	8.4	189.0			QL=6 ST=2 TYP=5
	2695	ATHN	47 GB	1330.5	1331.6	8.0	130.0			QL=6 ST=2 TYP=5
	2695	SGMR	47 GB	1344.3	1345.3	13.7	44.0			QL=6 ST=2 TYP=5
	2695	SGMR	47 GB	1358.0	1358.1	22.1	61.0			QL=6 ST=2 TYP=5
	2695	SGMR	20 GRF	1420.1	1421.3	30.0	50.0			QL=6 ST=2 TYP=2
	8800	ATHN	4 S/F	1421.6	1422.5	4.7	37.0			QL=6 ST=2 TYP=3
	8800	SGMR	8 S	1422.3	1422.6	.5	16.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	1422.3	1423.3	3.0	7.0			QL=6 ST=2 TYP=3
	2695	SGMR	4 S/F	1450.1	1452.5	10.7	42.0			QL=6 ST=2 TYP=3
	2695	SGMR	20 GRF	1500.8	1502.1	7.0	41.0			QL=6 ST=2 TYP=2
	2800	OTTA	4 S/F	1758.0	1759.0	4.0	45.0	11.2		
	8800	SGMR	8 S	1758.8	1759.1	.7	38.0			QL=6 ST=2 TYP=3
	2695	SGMR	8 S	1759.0	1759.1	.6	36.0			QL=6 ST=2 TYP=3
	2800	OTTA	21 GRF	2000.0	2045.0	100.0	5.8	2.9		
	2800	OTTA	8S	2044.7	2044.7	0.1	16.0			
	2695	SGMR	47 GB	2310.8	2311.6	1.8	54.0			QL=6 ST=2 TYP=5
11	2695	PENT	1S	0010.8	0010.9	1.0	3.8	1.9		
	8800	LEAR	4 S/F	0409.8	0413.0	9.2	11.0			QL=4 ST=2 TYP=3
	2695	ATHN	4 S/F	0651.5	0653.5	9.0	13.0			QL=6 ST=2 TYP=3
	8800	ATHN	4 S/F	0652.1	0653.5	6.4	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	8 S	0652.3	0653.6	2.0	27.0			QL=6 ST=2 TYP=3
	2695	LEAR	4 S/F	0652.3	0654.8	2.7	18.0			QL=6 ST=2 TYP=3
	8800	ATHN	4 S/F	0950.1	0951.3	4.2	13.0			QL=6 ST=3 TYP=3
	2800	OTTA	1S	1148.0	1150.0	6.0	2.0	1.0		
	2800	OTTA	22 GRF	1230.0	1320.0	170.0	2.6			
	2695	SGMR	8 S	1320.6	1321.6	1.7	22.0			QL=6 ST=2 TYP=3
	8800	ATHN	20 GRF	1500.5	1512.1	14.6	23.0			QL=6 ST=2 TYP=2
	8800	PALE	8 S	2030.6	2031.3	1.2	27.0			QL=6 ST=2 TYP=3
12	8800	LEAR	4 S/F	0428.0	0438.3	10.8	13.0			QL=6 ST=2 TYP=3
	8800	ATHN	8 S	0437.8	0438.3	1.5	11.0			QL=6 ST=2 TYP=3
	2695	SGMR	47 GB	1312.3	1312.6	.7	52.0			QL=6 ST=2 TYP=5
	2695	SGMR	20 GRF	1341.8	1344.6	57.3	20.0			QL=6 ST=2 TYP=2
	2800	OTTA	240 R	1415.0	1455.0	40.0	3.1	1.6		
	2695	SGMR	8 S	1836.3	1836.5	.5	42.0			QL=6 ST=2 TYP=3
	2800	OTTA	40F	2229.0	2234.5	8.0	149.0			
13	8800	LEAR	4 S/F	0620.8	0622.3	4.0	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0621.0	0621.1	1.3	22.0			QL=6 ST=2 TYP=3
	2695	ATHN	20 GRF	1220.3	1221.0	6.3	7.0			QL=6 ST=3 TYP=2
	8800	ATHN	20 GRF	1221.0	1224.3	5.6	8.0			QL=6 ST=3 TYP=2
	2800	OTTA	1S	1221.6	1221.6	1.0	5.0	2.4		
	2695	SGMR	8 S	1223.8	1223.8	.3	15.0			QL=6 ST=2 TYP=3
	2800	OTTA	1S	1340.0	1343.0	10.0	1.8	0.9		
	8800	ATHN	20 GRF	1529.1	1530.1	6.5	11.0			QL=6 ST=2 TYP=2
	2800	OTTA	1S	1529.5	1530.0	1.5	6.4	3.0		
	2695	ATHN	20 GRF	1529.6	1530.1	1.4	7.0			QL=6 ST=2 TYP=2
	2800	OTTA	1S	1710.5	1711.0	1.0	3.2	2.4		
	2800	OTTA	2 S/F	1936.0	1937.2	10.0	4.8	2.6		
14	2695	ATHN	8 S	0434.3	0434.8	1.3	7.0			QL=6 ST=2 TYP=3
	8800	ATHN	8 S	0434.6	0435.1	1.0	3.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	1430.0		75.0	2.0			
	2800	OTTA	21 GRF	1640.0	1648.0	220.0	5.8	2.9		
	8800	ATHN	4 S/F	1644.0	1646.5	7.0	27.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	1645.0	1646.5	4.6	10.0			QL=6 ST=2 TYP=3
	2800	OTTA	2 S/F	1646.0	1646.2	1.2	4.0	2.0		
	2800	OTTA	1A S	1656.0	1702.0	10.0	2.2	1.4		
	2800	OTTA	2 S/F	1657.5	1658.5	3.5	4.0	1.4		
15	2695	LEAR	4 S/F	0309.6	0310.6	9.2	40.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
15	8800	LEAR	8 S	0310.1	0310.6	1.5	23.0			QL=6 ST=2 TYP=3
	8800	PALE	8 S	0310.1	0311.3	1.4	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	1335.0	1345.0	25.0	2.2	1.1		
	2800	OTTA	20 GRF	1410.0	1430.0	70.0	3.2	1.6		
	2695	SGMR	8 S	1959.0	1959.6	1.3	48.0			QL=6 ST=2 TYP=3
16	2800	OTTA	20 GRF	1235.0	1250.0	55.0	2.2	1.1		
	2800	OTTA	21 GRF	1435.0	1550.0	195.0	5.4	2.4		
	2800	OTTA	2 S/F	1446.0	1447.5	5.0	6.8	3.2		
	8800	ATHN	47 GB	1534.1	1536.3	5.4	169.0			QL=6 ST=2 TYP=5
	2800	OTTA	46F C	1534.2	1536.0	7.0	36.0	15.8		
	8800	SGMR	47 GB	1534.3	1536.1		160.0			QL=6 ST=3 TYP=5
	2695	ATHN	4 S/F	1534.3	1536.3	4.7	29.0			QL=6 ST=2 TYP=3
	2695	SGMR	8 S	1534.5	1536.3		29.0			QL=6 ST=3 TYP=3
	2800	OTTA	1S	2114.0	2114.2	1.0	2.0	1.0		
17	8800	LEAR	4 S/F	0055.8	0057.0	4.8	37.0			QL=6 ST=2 TYP=3
	8800	PALE	20 GRF	0055.8	0057.0	3.5	39.0			QL=6 ST=2 TYP=2
	2695	PENT	46F C	0056.0	0059.0	5.0	34.0	15.9		
	2695	LEAR	4 S/F	0056.1	0059.0	4.5	38.0			QL=6 ST=2 TYP=3
	2695	PENT	29 PBI	0101.0	0101.0	50.0	3.0	1.5		
	8800	LEAR	8 S	0105.3	0106.6	1.5	13.0			QL=6 ST=2 TYP=3
	2695	ATHN	8 S	0436.3	0437.1	1.3	10.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	1117.3	1119.3	10.0	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	1255.0	1310.0	65.0	1.8	1.0		
	2800	OTTA	20 GRF	1405.0	1520.0	145.0	2.6	1.3		
	2800	OTTA	20 GRF	1715.0	1840.0	225.0	2.4			
	2800	OTTA	20 GRF	2120.0	2200.0	95.0	3.6	2.8		
18	2800	OTTA	1S	1454.0	1455.0	5.0	4.2	2.0		
19	2695	LEAR	8 S	0018.0	0018.1	.3	42.0			QL=6 ST=2 TYP=3
	2800	OTTA	1S	1256.0	1257.0	3.0	1.8	1.2		
	2800	OTTA	2 S/F	1300.5	1301.2	2.0	2.0			
	2800	OTTA	1S	1520.8	1521.0	1.0	1.8	0.8		
	2800	OTTA	240 R	1600.0	1620.0	20.0	2.2	1.1		
	2800	OTTA	40F	1742.0	1745.8	5.0	6.8			
	2800	OTTA	20 GRF	1845.0	1900.0	50.0	2.2	1.1		
	2800	OTTA	22 GRF	1955.0	2001.0	30.0	2.2	1.5		
	2800	OTTA	1 S	2040.9	2041.2	1.0	7.0	3.2		
	2800	OTTA	21 GRF	2200.0	2350.0	150.0	4.8	2.0		
	8800	LEAR	8 S	2338.1	2338.8	1.7	20.0			QL=6 ST=2 TYP=3
	2695	PENT	2 S/F	2338.5	2339.0	6.0	4.8	1.6		
20	2695	PENT	20 GRF	0040.0	0055.0	75.0	2.4	1.2		
	2800	OTTA	21 GRF	1420.0	1520.0	120.0	3.6	2.6		
	2800	OTTA	4 S/F	1423.0	1424.0	5.0	16.2	5.4		
	2695	ATHN	4 S/F	1423.3	1424.1	4.0	13.0			QL=6 ST=2 TYP=3
	8800	ATHN	4 S/F	1423.3	1424.1	3.7	44.0			QL=6 ST=2 TYP=3
	8800	SGMR	4 S/F	1423.6	1424.1	3.7	48.0			QL=6 ST=2 TYP=3
	2695	SGMR	4 S/F	1423.8	1424.0	3.3	22.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	2020.0	2040.0	80.0	2.0	1.5		
	2800	OTTA	21 GRF	2150.0	2240.0	100.0	2.2	1.7		
	2800	OTTA	2 S/F	2214.0	2216.0	2.5	2.0	0.8		
21	2800	OTTA	240 R	1405.0	1420.0	15.0	2.4	1.2		
	2800	OTTA	1 S	1537.5	1538.2	1.5	2.8	1.9		
	8800	ATHN	8 S	1601.0	1601.5	1.3	33.0			QL=6 ST=2 TYP=3
	2695	ATHN	8 S	1601.3	1601.6	.8	7.0			QL=6 ST=2 TYP=3
	8800	SGMR	8 S	1601.3	1601.6	1.0	40.0			QL=6 ST=2 TYP=3
	2800	OTTA	1 S	1601.3	1601.8	2.0	3.8	1.8		
22	8800	LEAR	8 S	0033.3	0033.5	1.0	8.0			QL=6 ST=2 TYP=3
	2800	OTTA	3 S	1758.0	1800.0	4.0	21.0	7.0		
	2695	SGMR	8 S	1759.0	1800.0	1.8	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	29 PBI	1802.0	1802.0	30.0	5.4	2.4		
	2800	OTTA	3 S	1841.0	1842.0	4.0	11.0	5.0		
	2800	OTTA	29 PBI	1845.0	1845.0	15.0	3.0	1.4		
	2800	OTTA	1A S	2052.0	2053.0	10.0	2.4	1.2		
	2800	OTTA	1 S	2054.0	2055.0	2.0	2.0	1.0		
	2800	OTTA	21 GRF	2130.0	2210.0	180.0	2.8	1.6		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
22	2800	OTTA	1	S	2148.0	2149.0	2.0	2.8	1.2		
23	2695	ATHN	8	S	1435.5	1436.3	2.0	5.0			QL=6 ST=2 TYP=3
	2800	OTTA	4	S/F	1436.0	1436.9	2.0	10.8	5.4		
	2800	OTTA	29	PBI	1438.0	1438.0	30.0	2.4	1.2		
	8800	ATHN	8	S	1528.1	1528.5	1.4	13.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	1540.1	1540.3	2.2	18.0			QL=6 ST=3 TYP=3
	2800	OTTA	21	GRF	2005.0	2100.0	210.0	6.8	4.6		
	2800	OTTA	3	S	2153.5	2154.5	2.5	11.8	5.8		
	2800	OTTA	29	PBI	2156.0	2156.0	15.0	3.0	1.5		
24	2695	ATHN	8	S	0359.0	0359.5	1.3	7.0			QL=5 ST=2 TYP=3
	8800	ATHN	8	S	0359.0	0359.5	1.3	6.0			QL=5 ST=2 TYP=3
	2800	OTTA	21	GRF	1225.0	1235.0	45.0	3.0	1.5		
	2695	ATHN	4	S/F	1232.3	1233.3	3.7	6.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	1232.3	1234.1	3.7	6.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1233.0	1233.0	1.0	3.0	1.5		
	2800	OTTA	20	GRF	1610.0	1700.0	120.0	2.2	1.5		
	2695	PENT	20	GRF	2210.0	2240.0	105.0	3.4	1.7		
25	2695	PENT	21	GRF	1120.0	1205.0	115.0	3.0			
	2800	OTTA	46F	C	1125.0	1127.0	13.0	50.0	14.6		
	8800	ATHN	47	GB	1125.0E	1127.1	13.0D	180.0			QL=2 ST=2 TYP=5
	8800	SGMR	47	GB	1125.8	1127.0	11.5	119.0			QL=3 ST=3 TYP=5
	2695	SGMR	4	S/F	1126.0	1126.8	9.1	41.0			QL=6 ST=2 TYP=3
	2800	OTTA	22	GRF	1535.0	1614.0	70.0	2.8	2.0		
	2800	OTTA	21	GRF	1835.0	2045.0	260.0D	6.4			
	2800	OTTA	4	S/F	1850.2	1851.1	3.8	47.0	23.0		
	8800	PALE	8	S	1850.8	1851.1	1.2	33.0			QL=6 ST=2 TYP=3
	2800	OTTA	30	PBI	1854.0	1854.0	10.0	6.8	3.4		
	2800	OTTA	1	S	1856.0	1856.5	2.0	2.8	1.4		
	8800	PALE	8	S	1856.3	1856.8	1.2	31.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1936.6	1937.3	1.5	19.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1947.5	1948.3	1.0	21.0			QL=6 ST=2 TYP=3
	2800	OTTA	4	S/F	2049.0	2052.0	9.0	86.0	28.0		
	8800	SGMR	47	GB	2049.8	2051.1	9.0	130.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	2050.1	2051.1	7.2	110.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	2050.3	2052.1	7.0	119.0			QL=6 ST=2 TYP=5
	2800	OTTA	29	PBI	2058.0	2058.0	30.0	5.8	2.9		
26	2800	OTTA	3	S	1329.0	1330.0	6.0	23.0	8.0		
	2800	OTTA			1417.0		310.0D	23.0			
	2800	OTTA	20	GRF	2115.0	2125.0	110.0D	6.0	3.0		
27	2800	OTTA	8	S	1606.0	1606.1	0.2	8.6			
	2800	OTTA	2	S/F	1802.0	1805.5	6.0	4.4	1.5		
	2800	OTTA	20	GRF	1847.0	1905.0	65.0	2.0	1.0		
	2800	OTTA	1	S	2106.0	2107.0	8.0	5.4	2.2		
	2800	OTTA	8	S	2126.7	2127.0	0.5	7.0	3.5		
28	2695	PENT	1	S	0130.0	0131.2	3.5	6.8	2.6		
	8800	LEAR	4	S/F	0130.0	0131.0	6.5	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0130.3	0131.5	1.8	10.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0248.8	0252.3	7.8	17.0			QL=6 ST=2 TYP=3
	2800	OTTA	27	RF	1110.0		145.0	2.8	2.3		
	2800	OTTA	24	R	1110.0	1155.0	45.0	2.8	1.4		
	2800	OTTA	24P	R	1145.0		90.0	2.8			
	2800	OTTA	26	FAL	1325.0	1335.0	10.0	-2.8	-1.8		
	2800	OTTA	20	GRF	1345.0	1420.0	55.0	2.0	1.0		
	2800	OTTA	20	GRF	1500.0	1555.0	200.0	5.8	2.9		
	2800	OTTA	8	S	2232.3	2232.5	0.7	3.0	1.5		
29	2695	PENT	20	GRF	0000.0	0050.0	100.0	2.8	1.4		
	2800	OTTA	20	GRF	1200.0	1247.0	110.0	3.2	1.1		
	2800	OTTA	240	R	1530.0	1555.0	25.0	2.0	1.0		
	2800	OTTA	240	R	1850.0	1855.0	5.0	2.8	1.4		
	2800	OTTA	1	S	1946.2	1946.8	1.0	5.6	2.8		
	2800	OTTA	1	S	2155.0	2155.5	1.0	2.2	1.1		
	2800	OTTA	46F	C	2227.5	2237.5	23.0	30.0	8.6		
	8800	SGMR	4	S/F	2236.1	2237.1	3.9	38.0			QL=6 ST=2 TYP=3
	2695	SGMR	4	S/F	2236.5	2237.8	3.6	26.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
29	2695	PENT	2 S/F	2340.0	2345.0	8.0	8.6	4.3		
30	2800	OTTA	21 GRF	1740.0	1820.0	225.0	3.8	1.9		
	2800	OTTA	4 S/F	1810.5	1816.0	11.0	13.0	5.0		
	2695	SGMR	4 S/F	1813.1	1817.0	8.9	20.0			QL=6 ST=2 TYP=3

Observatories:
BERN = Berne MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill
LEAR = Learmonth ATHN = Athens PALE = Palehua

Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset on Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	32 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	41 Group of Bursts	47 Great Burstise Storm
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major
				49 Major +

Remarks:
QL = Quality (1=poor to 6=excellent)
ST = Status (1=real time; 2=final; 3=correction; 4=deletion)
TYP= Type (1=noise storm;2=rise in base level;3=minor;4=group;5=major;6=major plus;7=Castelli U-type burst)

INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2027	NOV 15	-	-	-	AT	AT	-	-	-	-	AT	-	-	-	-	-	TA	-	TA	TA	AT	-	-	-	-	-	AT	-
2028	DEC 12	TA	-	-	-	AT	AT	-	-	AT	TA	-	-	-	-	-	-	AT	-	AT	TA	-	-	-	-	TA	-	-
2029	1982 JAN 8	-	-	-	-	-	TA	TA	-	-	-	-	-	-	TA	-	-	TA	-	-	-	AT	-	-	-	AT	-	-
2030	FEB 4	-	-	-	TA	TA	TA	TA	-	-	TA	-	-	-	-	-	TA	-	-	-	-	-	-	TA	-	-	-	TA
2031	MAR 3	-	-	-	-	-	TA	TA	-	TA	TA	-	TA	-	-	TA	-	-	-	TA	TA	-	-	-	-	-	-	AT
2032	MAR 30	-	TA	-	TA	-	-	-	-	-	-	TA	-	-	-	-	-	AT	TA	-	TA	-	-	-	-	-	-	-
2033	APR 26	-	AT	-	-	-	-	-	TA	TA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	AT	AT	-	-
2034	MAY 23	-	-	-	AT	-	TA	-	-	-	-	-	AT	-	-	-	-	-	-	-	-	-	-	-	-	-	TA	-
2035	JUN 19	-	-	-	-	-	-	-	-	-	-	-	-	TA	-	-	-	-	-	-	-	-	-	TA	-	-	-	-
2036	JUL 16	-	-	-	-	-	TA	-	-	-	-	AT	-	-	-	AT	-	-	-	-	-	-	-	-	-	-	-	-
2037	AUG 12	-	-	-	-	-	-	-	-	TA	-	-	TA	TA	TA	-	-	-	TA	-	TA	-	-	-	-	-	-	-
2038	SEP 8	TA	AT	-	-	-	-	-	-	-	-	-	-	-	TA	-	AT	-	-	-	-	-	TA	-	-	-	-	-
2039	OCT 5	-	AT	-	AT	-	-	-	-	-	AT	TA	-	-	-	-	AT	-	-	-	-	-	-	-	TA	-	-	-
2040	NOV 1	AT	-	-	-	AT	-	-	-	-	AT	-	-	-	-	AT	-	-	TA	-	-	-	-	-	TA	AT	-	-
2041	NOV 28	TA	-	-	-	-	AT	-	-	-	-	-	-	TA	TA	-	-	-	-	-	-	-	AT	AT	-	-	-	-
2042	DEC 25	-	-	AT	AT	-	-	-	TA	-	-	-	-	-	-	-	-	-	TA	TA	-	-	-	AT	-	-	-	-
2043	1983 JAN 21	-	-	-	-	-	-	-	-	-	TA	-	-	-	-	TA	AT	-	-	-	-	-	-	-	-	-	-	-
2044	FEB 17	-	-	-	-	-	-	-	-	-	-	TA	-	-	TA	-	TA	TA	-	AT	TA	TA	-	TA	-	-	-	-
2045	MAR 16	-	-	AT	AT	AT	-	-	-	-	-	AT	-	-	-	-	AT	-	TA	-	-	-	-	-	-	-	-	-
2046	APR 12	-	-	TA	-	-	-	-	-	-	-	-	-	TA	-	-	-	AT	TA	AT	-	-	-	-	AT	AT	AT	-
2047	MAY 9	-	-	AT	-	-	AT	-	-	-	AT	AT	-	-	-	-	-	-	AT	-	-	-	-	-	AT	-	-	AT
2048	JUN 5	-	-	AT	-	AT	-	AT	AT	-	AT	AT	-	-	AT	AT	AT	-	-	AT	-	-	-	AT	-	-	-	-

[ ] = definitely towards the sun [ ] = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

STANFORD MEAN SOLAR MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2029	1982 JAN 3	■		■	■	■	□	□	□	□	□	□	■	■	■	▥	■	□				□	□	□	□	□		□
2030	JAN 30	▥	■	■	■	■	■	□	□	□	□		□	□	□				□	□	□	□	□	□	□	□	□	□
2031	FEB 26	■	■		■	■	■	■	■	■		■		□	□	□				□		□	□	□	□	□	□	■
2032	MAR 25	■		■	■	■						■	□	□	□	□	□		□	□			□	□	□	□	□	■
2033	APR 21	■	■	■	■	■	■	■	■	■	■	■	■	□	□	□	□	□	□	□	□	□	□	□	□	□	□	□
2034	MAY 18	□	■	■	■	■	■	■	■	■	■	■	■	□	□		□	□	□	□	□	□	□	□	□	□	□	
2035	JUN 14	□	□	■	■	■	■	■	■	■	■	■	■	■	□	□	□	□		□	□	□	□	□	□	□	□	□
2036	JUL 11	□	□	□	□	■	■	■	■	■	■		■	■	■	■	□	□	□	□	□	□	□	□	□	□	□	□
2037	AUG 7	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■	□	□	□	□	□	□	□	□	□	□
2038	SEP 3	□	□	□	□	□	■	■	■	■	■	■	■	■		■	■	■	□	□	□	□	□	□	□	□	□	□
2039	SEP 30	□	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	▥	□	■	□	□			□	□		□
2040	OCT 27	□	□	□		■	■	■	■	■		■	■	■		■	■	▥	□	□	□	□				□	□	
2041	NOV 23		□	▥	■	■				□			□	■		■	■	■	■	□	□	□	□		□	□		□
2042	DEC 20	□							■	□	□	□	□	■		■	■	■	■	■		□	□	□	□	□	□	
2043	1983 JAN 16	□	□		■	■			■	■	□		□	□	■	■	■	■		■	□	□			□	□	□	□
2044	FEB 12		□	■	■	■	■	■	■	■	□	□		▥		■	■				□	□	□	□		□		□
2045	MAR 11	□		▥	■	■	■	■	■	■		□	□			■	■	■	■	■	▥	□	□	□	□	□	□	□
2046	APR 7	□	□		■	■	■	■	■	■	□	□	□	□	■			■	■	■	■			□		□	□	□
2047	MAY 4	□	□	■	■	■	■	■	■	■	□	□	□	□	□	■	■	■	■	■	■	□	□	□	□	□	■	
2048	MAY 31								▥	□	□	□	□							■	■	■	▥	□	□	□	□	□
2049	JUN 27	□	□	□	□	■	■	■	□	□	□	□	□	□														

POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

	1932						1933					
day	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
01	.	49	39	22	-31	42	-9	-31	.	25	69	.
02	85	19	102	53	-15	.	.	.	.	33	65	.
03	75	19	84	37	-18	.	-39	-8	11	52	52	.
04	71	52	66	18	-38	10	-31	15	33	61	35	.
05	53	85	63	-6	.	-42	-73	45	38	63	12	.
06	35	105	55	-41	-63	.	-22	.	51	50	-3	.
07	29	81	30	-54	-61	-90	-2	.	.	29	-15	0
08	42	63	-27	-76	-68	-64	.	54	65	21	-43	12
09	54	59	-55	-90	.	-29	53	84	.	.	-51	30
10	63	33	-74	-93	-54	-20	46	93	48	-15	-45	45
11	87	-30	-93	-96	-21	26	37	69	30	-44	-27	28
12	79	-37	-124	-100	1	29	53	.	.	-48	-3	.
13	43	-118	-125	-70	19	43	84	16	2	-43	10	.
14	9	-121	-120	-35	34	28	84	-19	-25	-29	27	.
15	-39	-144	-112	-7	37	.	.	-22	-44	-11	31	.
16	-112	-149	.	-1	52	8	39	-104	-62	9	10	.
17	-164	-141	-49	4	.	57	10	-102	-27	16	5	.
18	-193	-124	-28	-43	.	.	.	-67	-19	13	-9	-91
19	-201	-93	-14	55	.	64	-87	-37	-5	15	-69	-56
20	-189	-59	12	33	22	32	-119	-7	.	-11	-37	-28
21	.	-32	40	.	33	.	.	24	19	.	-96	-1
22	-128	-15	44	.	.	.	.	27	15	.	-47	23
23	-71	-12	26	17	.	.	-25	.	.	-66	-11	53
24	-29	5	10	45	12	.	-3	-1	.	-59	6	72
25	-5	32	8	.	-1	.	31	.	-23	-34	35	101
26	12	39	18	54	-31	.	.	-49	-34	-15	64	67
27	28	47	36	55	-58	-31	31	-56	-42	.	101	23
28	38	46	72	34	.	6	3	.	-17	.	117	27
29	48	25	57	20	.	42	-14		-20	36	-12	33
30	61	39	52	.	.	59	-51		1	.	.	26
31	53	54		-11		35	-91		18		.	

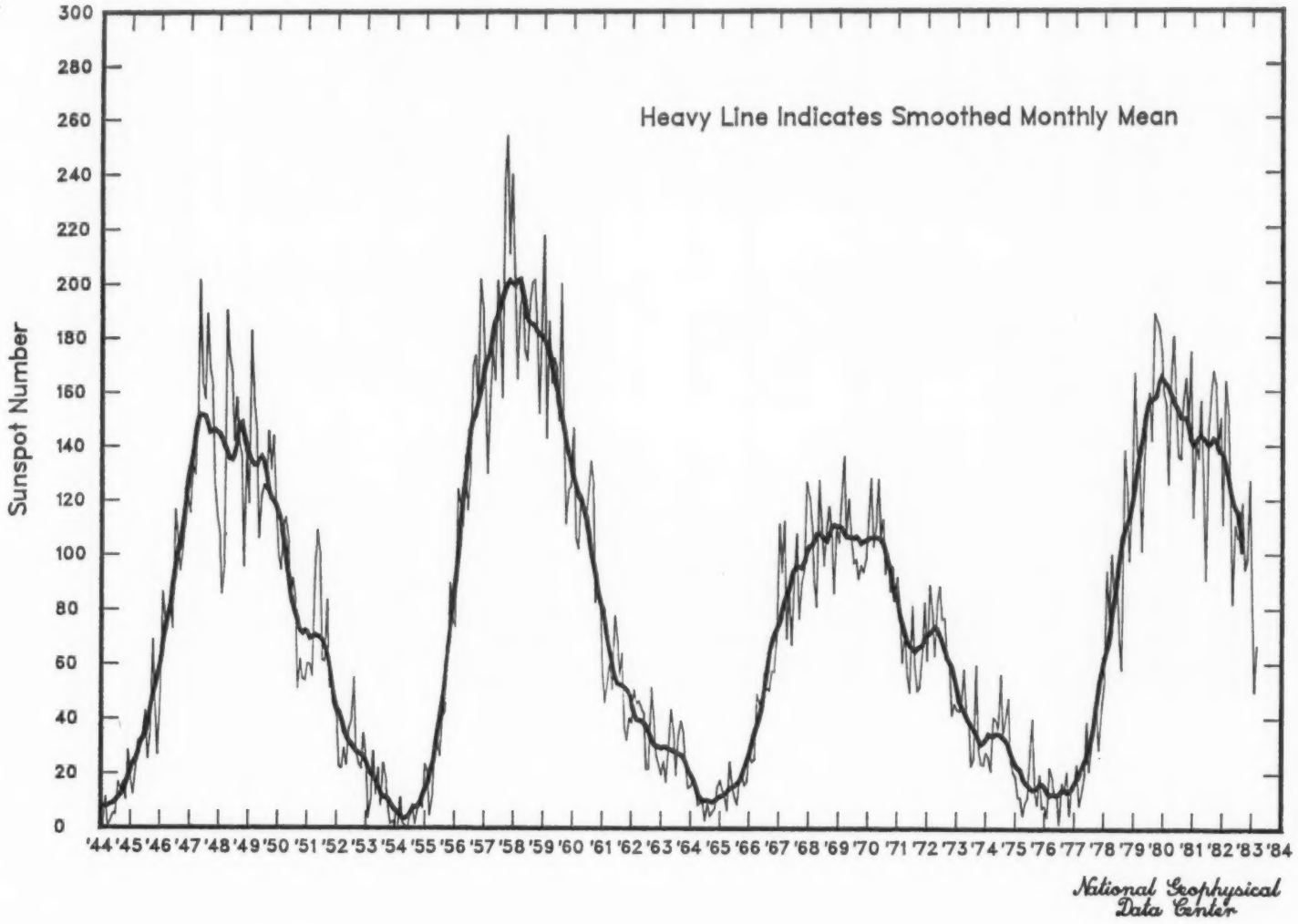
BOULDER GEOMAGNETIC SUBSTORM LOG

June 1983

DATE	ONSET TIME	DIR	COMMENTS
06/01			Field unsettled all day.
	0405	East	
	0815	Center	
06/02			Field intermittently unsettled.
	0740		Weak substorm.
	1305		Weak substorm.
06/03			Field intermittently unsettled.
	0855		Substorm effect along oval Lynn Lake to Norman Wells.
06/04			Field slightly unsettled.
	0645		Weak substorm, several minor injections with recovery near 0845 UT.
06/05			Field intermittently unsettled.
	0945	West	
	1450	West	
06/06			Field intermittently unsettled.
	0700		Weak substorm.
	1350	West	Weak substorm.
06/07			Field unsettled through 2000 UT with no significant substorm activity.
06/08			Field unsettled after 0500 UT.
	1040	West	Initial onset, numerous injections with recovery near 1500 UT.
06/09			Field unsettled all day.
	0820	West	Moderate substorm, sharp onset.
	1819		Polar cap substorm.
	1915		Polar cap substorm.
	2050		Polar cap substorm.
06/10	0455		Positive impulse H-component all mid/low latitude stations.
	1005	West	
	1240	West	Moderate substorm; initial onset at Anchorage, numerous injections with recovery near 1800 UT.
06/11			Field intermittently unsettled.
	0050		Localized substorm vicinity NAQ.*
	0320	East	Weak substorm.
	0350	East	Weak substorm.
	1005		Weak substorm College to Ft. Yukon.
	1320		Weak substorm College to Ft. Yukon.
06/12			Field unsettled all day.
	0135	East	Boulder in partial ring current sector.
	0435	East	
	1520		Weak substorm.
06/13	0120		Strong positive H-component all mid/low latitude stations. Mag storm through 1800 UT.
06/14			Field unsettled all day.
	0840	West	
	1425	West	
06/15			Field active all day.
	0050	East	
	0525	West	
	0920	West	Several injections.
	1330	West	
	1450	West	
	1750	West	
	1840		Polar cap substorm.
06/16			Field intermittently unsettled.
	1340		Weak substorm.
	1440	West	
06/17			Field unsettled all day.
	0600	East	
	1345	West	Weak substorm.
	1805		Polar cap substorm.
06/18			Minor storm conditions 0400-1800 UT.
06/19			Field active through 1800 UT.
	0225	East	Boulder in partial ring current system.
	0330	East	
	0625		Weak substorm, several injections.
	1045	West	Initial onset, final recovery near 1700 UT.
	1200	West	Injection into existing substorm.
	1415	West	Injection into existing substorm.
06/20			Field active through 1600 UT.
	0735	West	Weak substorm.
	1245	West	Initial onset, several injections with recovery near 1530 UT.
06/21			Field unsettled all day.
	0525	West	Several injections with recovery near 0730 UT.
	1805		Polar cap substorm.
06/22			Strong active conditions 0900-2000 UT with nearly continuous injection processes occurring.
06/23			Strong active conditions 0700-1800 UT with numerous injections occurring.
	0440		Substorm effects were observed at Ft. Yukon and NAQ only.
06/24			Field intermittently unsettled with no significant substorm activity.
06/25			Field quiet through 1200 UT and slightly unsettled balance of day.
06/26			Field unsettled all day.
	1345		Weak substorm; initial onset at Norman Wells, several minor injections with recovery near 1730 UT.
06/27			Field intermittently unsettled.
	0720	West	Weak substorm.
	0935	West	Weak substorm.
06/28			Field unsettled after 1000 UT.
	1420	West	Initial onset at College.
06/29			Field unsettled all day.
	0630	East	
	0925	West	Several injections.
06/30			Field intermittently unsettled.
	0805	West	Several minor injections with recovery near 0930 UT.
	1250	West	Weak substorm.

* Note: Narsarssuaq became operational on 19 April 1983. For convenience, it will be identified by the call letters NAQ.

MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – March 1983



SGD 467 Part I (Prompt)

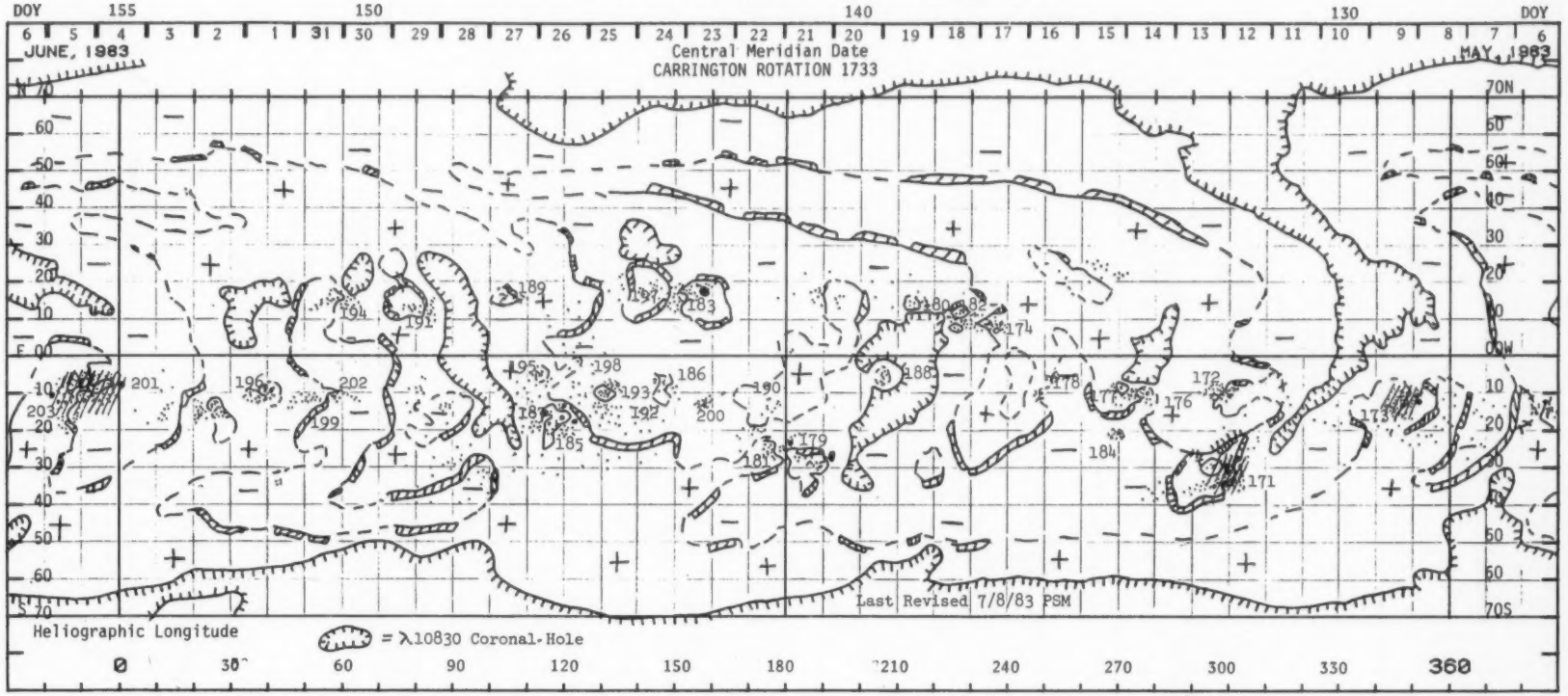
MAY 1983 DATA

Contents

	Page
Daily Solar Activity Centers	
H-alpha, Solar Magnetic Field, and Helium 10830A Synoptic Charts	44-47
Magnetograms, H-alpha Filtergrams, Sunspots, and Corona	48-78
Regions of Solar Activity (Data not available currently.)	
Daily Calcium Plage Index (Data not available currently.)	
Regions of Sunspot Activity	79-96
Sudden Ionospheric Disturbances	97-101
Spacecraft Observations	
Pioneer XII Interplanetary Magnetic Field Magnitudes (Data not available at time of publication.)	
Solar Radio Emission	
Spectral Observations	102-113
Cosmic Rays	
Chart of Variations	114-116
Neutron Monitors Daily Values	117
Geomagnetic Indices	
Geomagnetic Activity Indices (Kp, Ap, Cp, Km, Am, aa, Kn, An, Ks, As)	118
Daily Average Indices Ap	119
Chart of Kp by Bartels 27-day Rotation	120
Chart of Dst by Bartels 27-day Rotation (See page 130)	
Hourly Equatorial Dst Values (Provisional)	121
Principal Magnetic Storms	122
Sudden Commencements and Solar Flare Effects (Data not available at time of publication.)	
Radio Propagation Indices	
Quality Indices on Paths to Germany	123
Transmission Frequency Ranges - North Atlantic Path	124-125

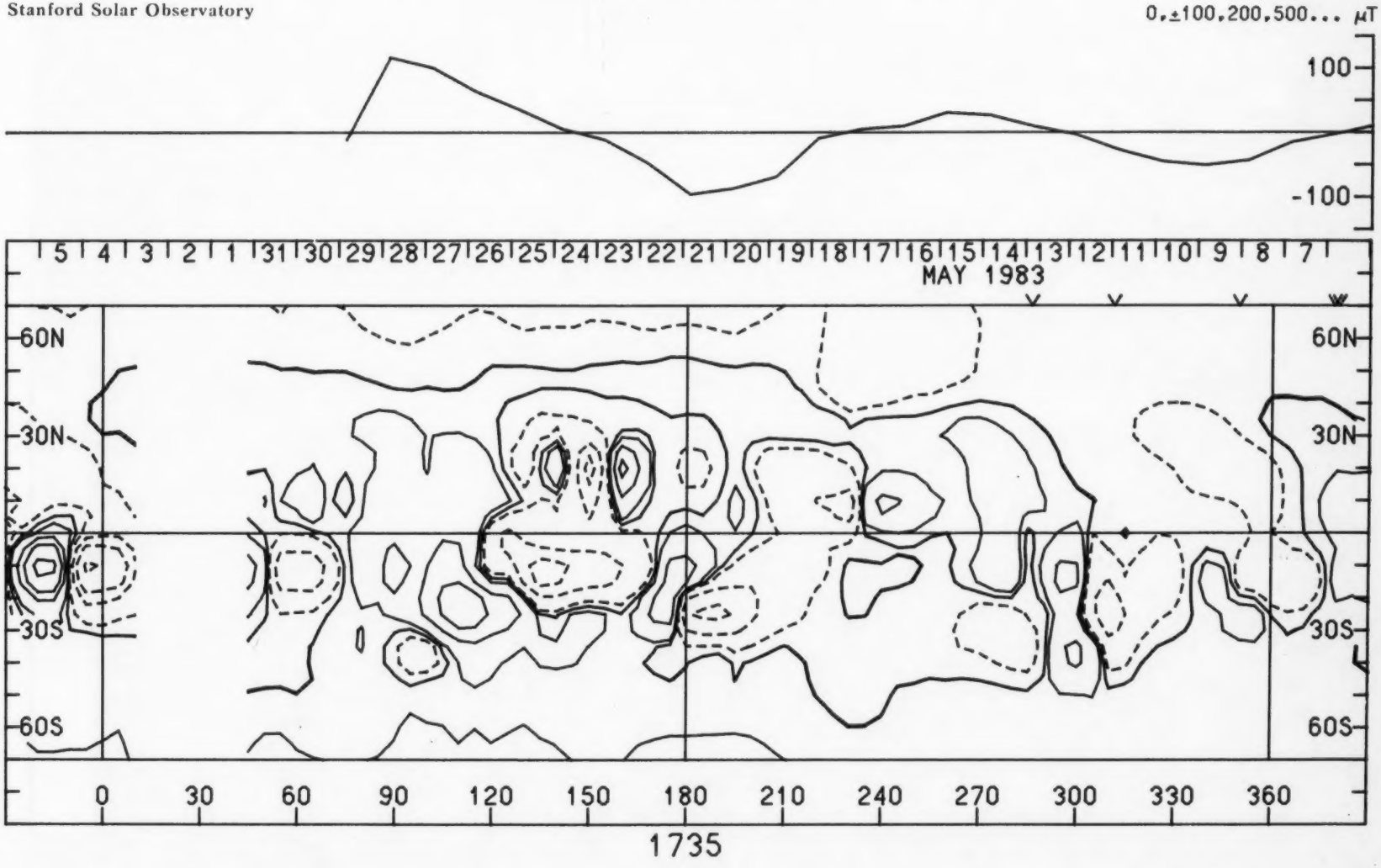
Hα SYNOPTIC CHART

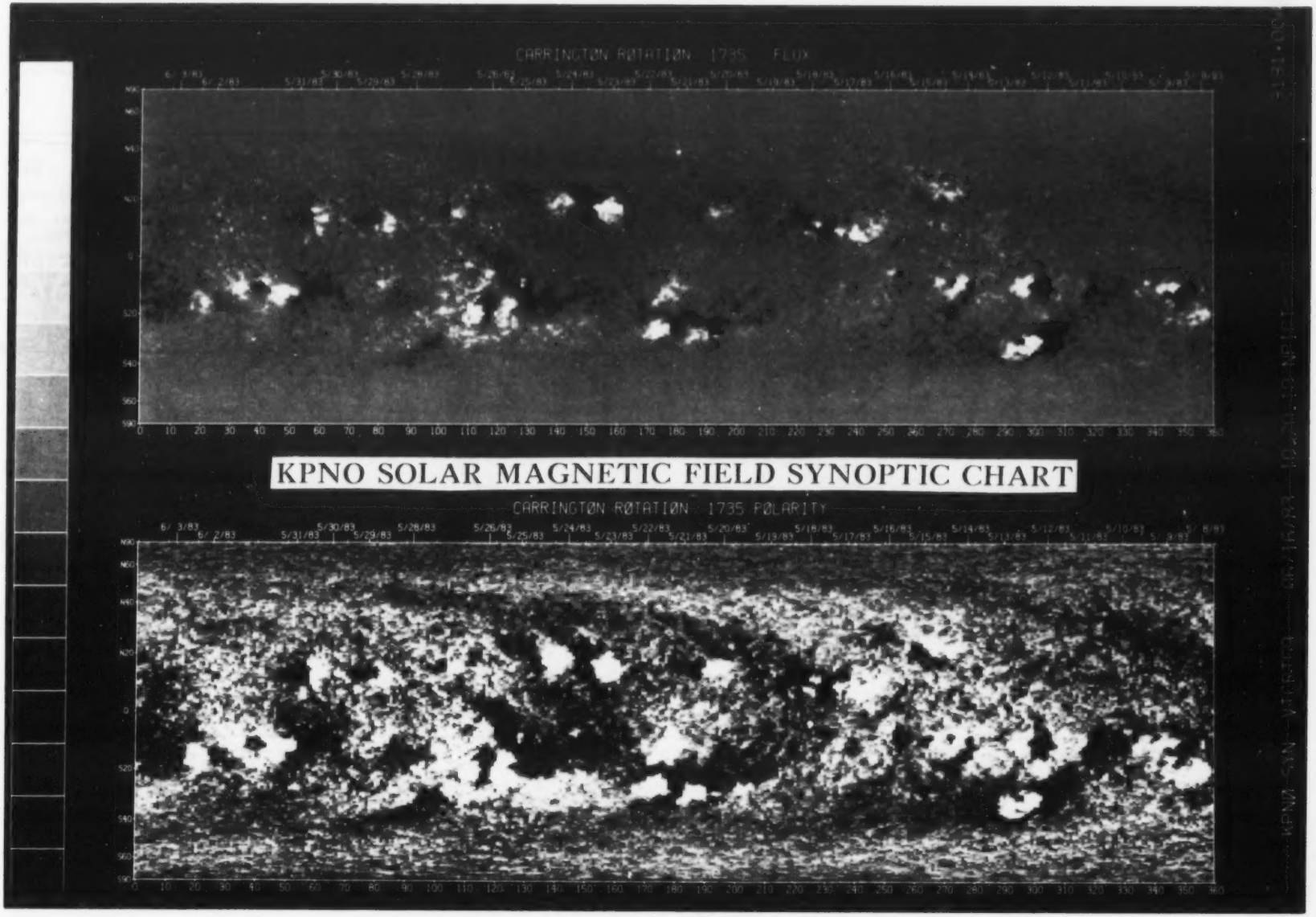
CARRINGTON ROTATION 1733 (PRELIMINARY)



SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1735

Stanford Solar Observatory



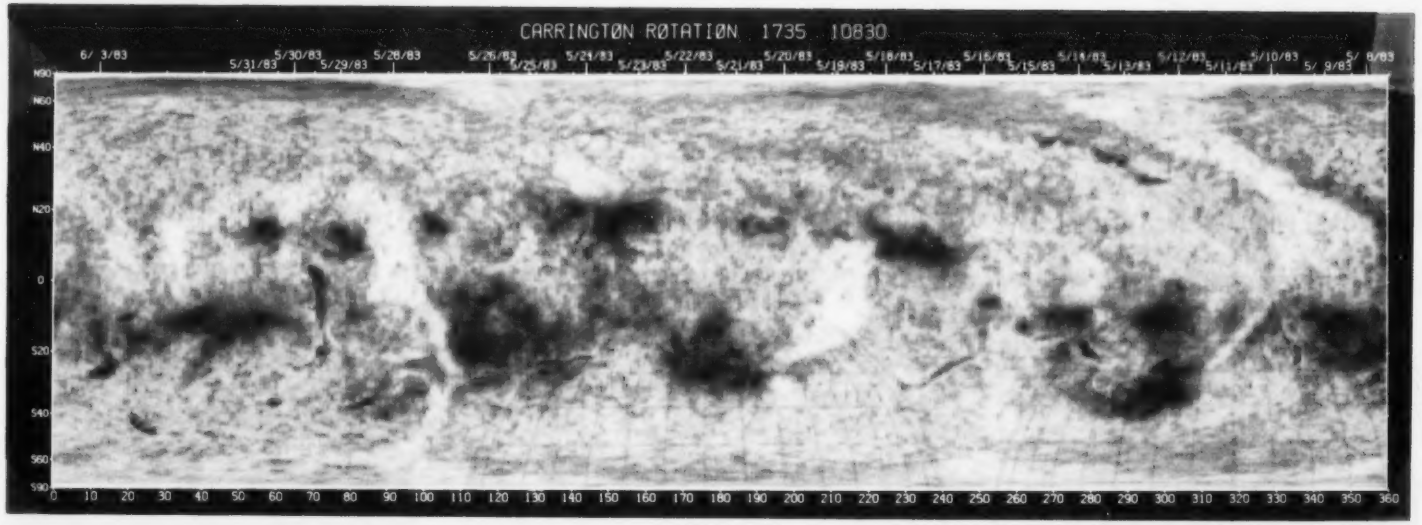


KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART

HELIUM 10830Å SYNOPTIC MAPS

CARRINGTON ROTATION 1735

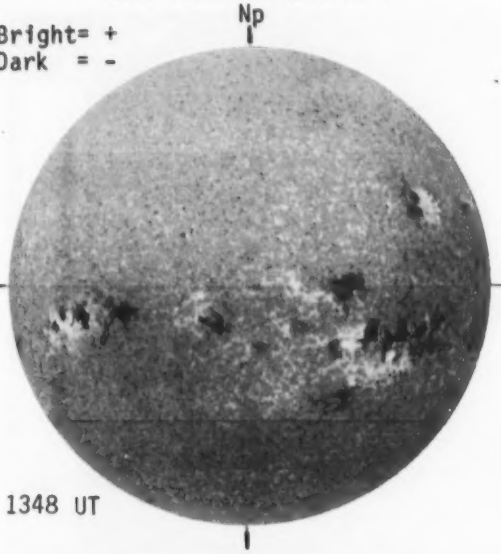
KITT PEAK NATIONAL OBSERVATORY



M A Y 01, 1 9 8 3 (P=-24.27, B_o=-4.20, L_o= 97.66)

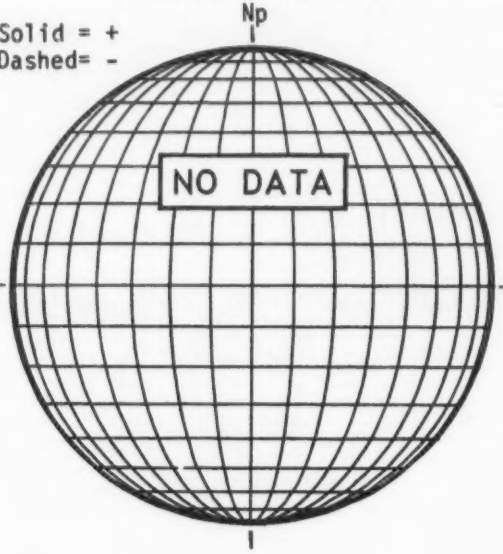
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

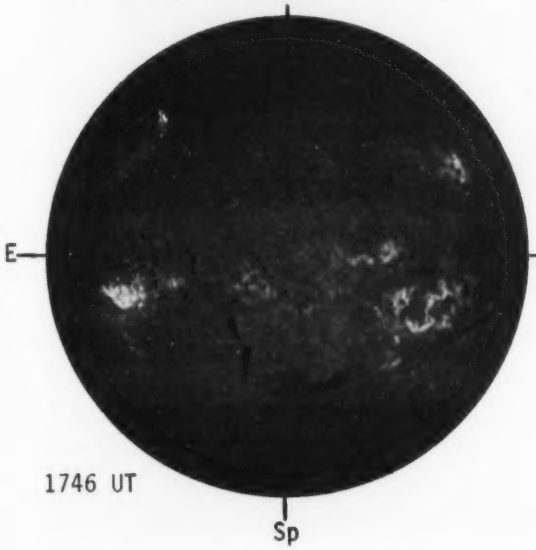
Solid = +
Dashed= -



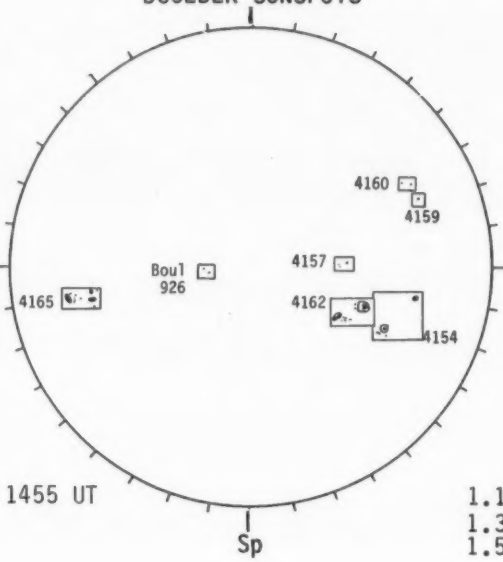
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

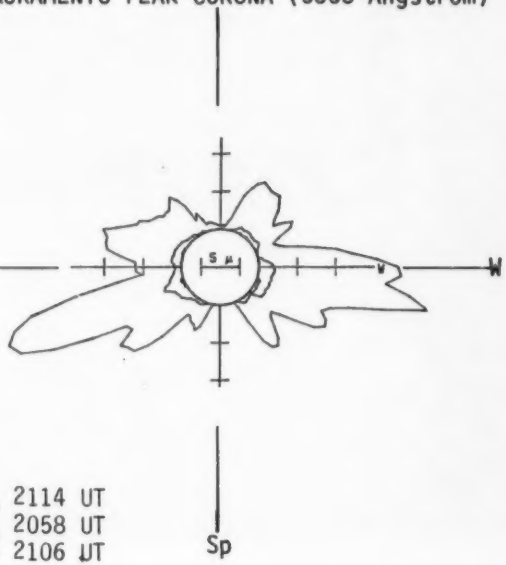
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R_o 2114 UT
1.35 R_o 2058 UT
1.55 R_o 2106 UT

M A Y 02, 1 9 8 3 (P=-24.10, B_o=-4.10, L_o= 84.44)

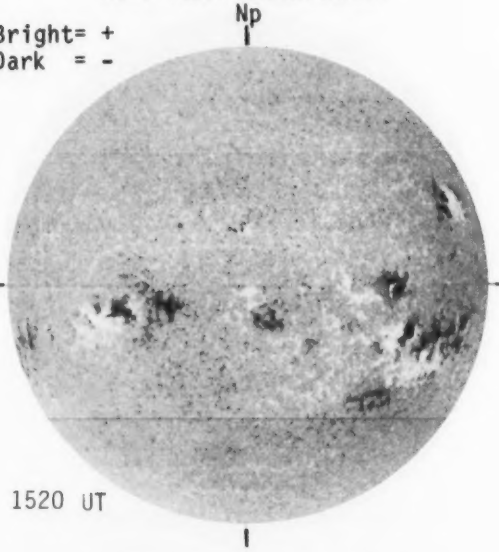
MT. WILSON MAGNETOGRAM

1.55 Ro 2106 UT Sp

M A Y 02, 1 9 8 3 (P=-24.10, B_o=-4.10, L_o= 84.44)

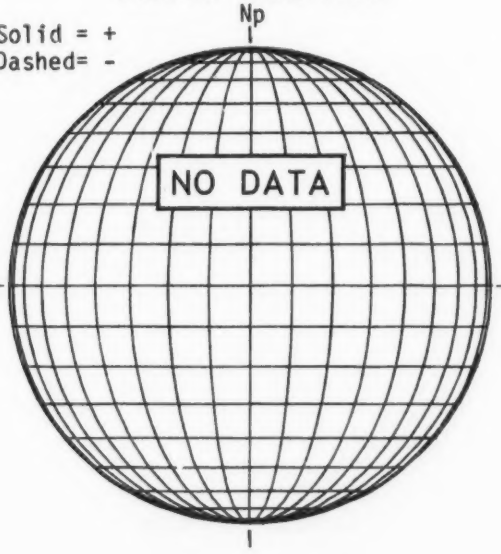
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



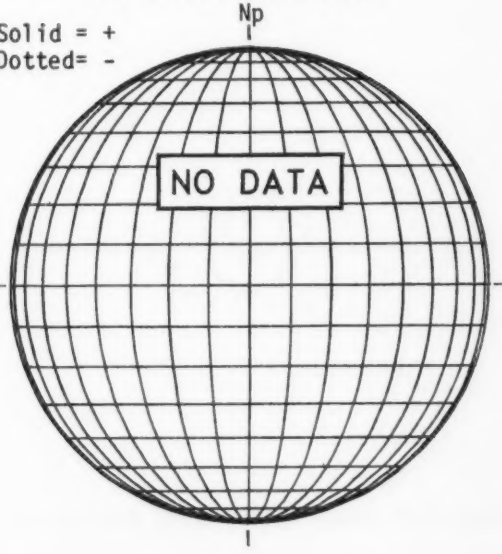
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

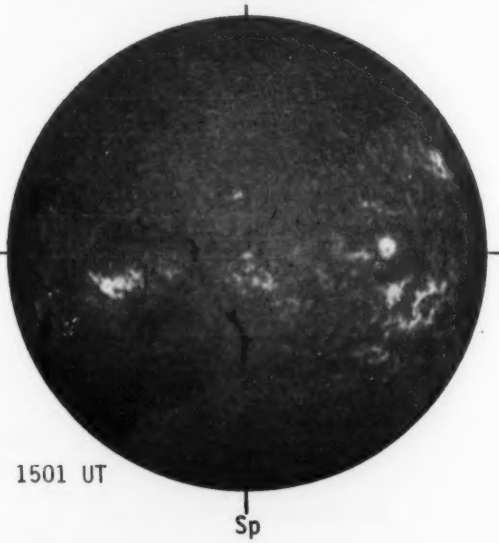


MT. WILSON MAGNETOGRAM

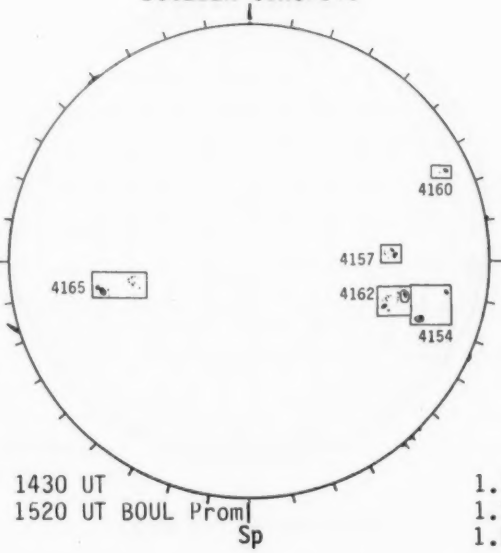
Solid = +
Dotted= -



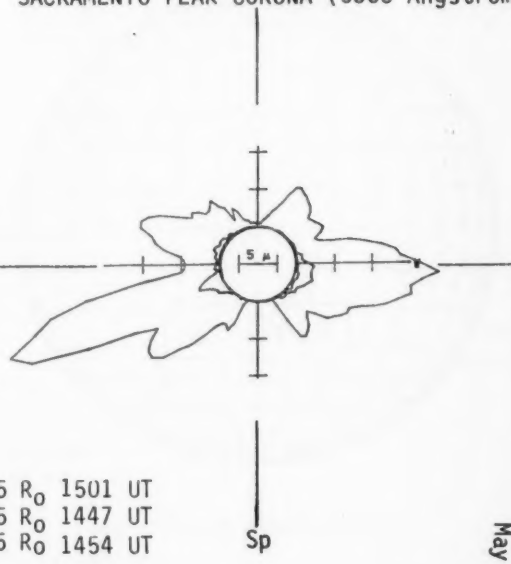
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



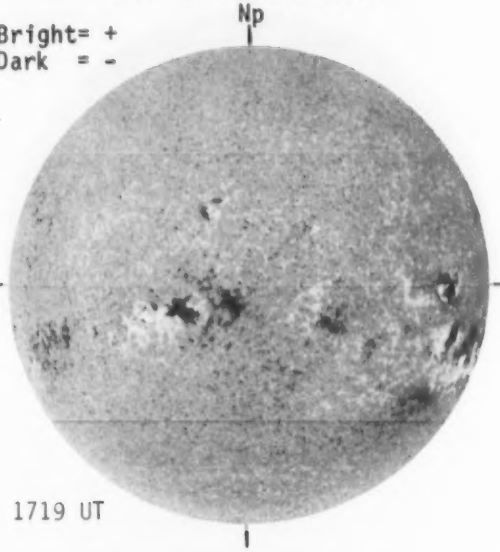
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 03, 1 9 8 3 (P=-23.91, B_o=-4.00, L_o= 71.22)

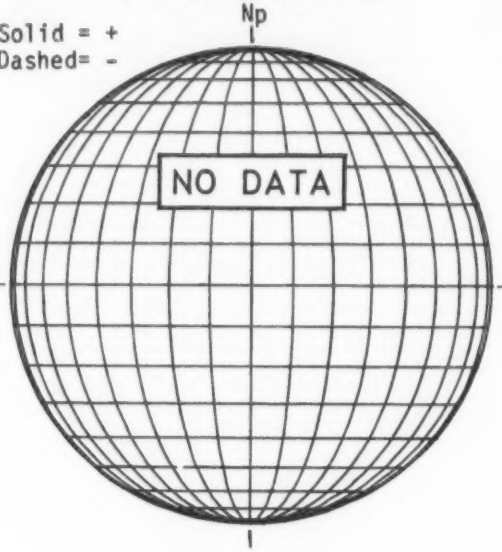
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



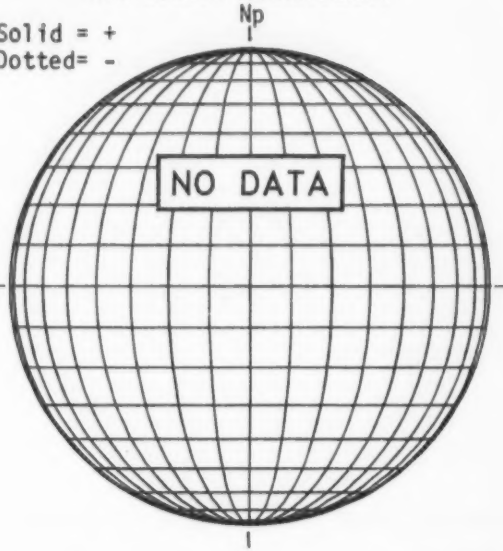
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

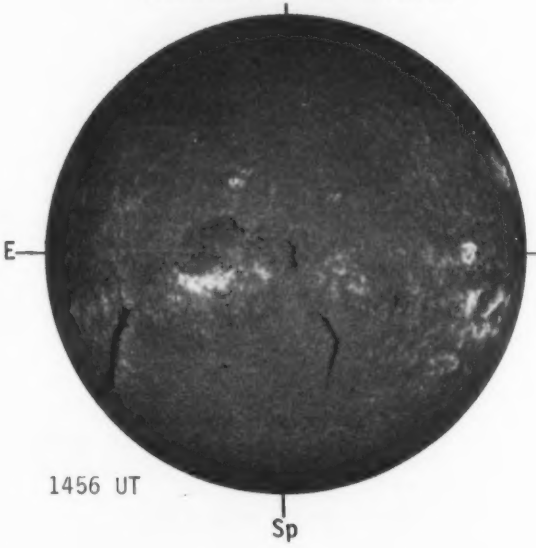


MT. WILSON MAGNETOGRAM

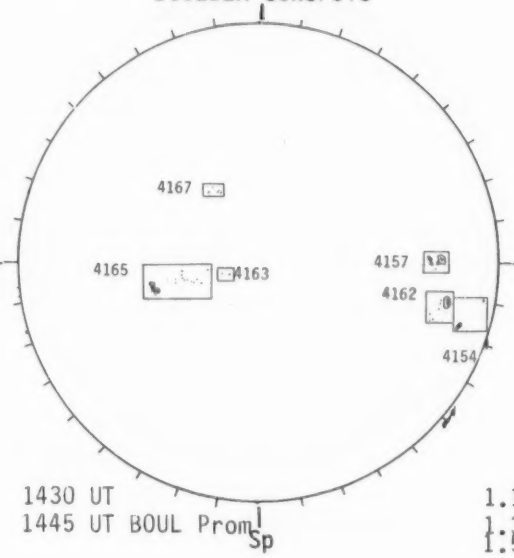
Solid = +
Dotted= -



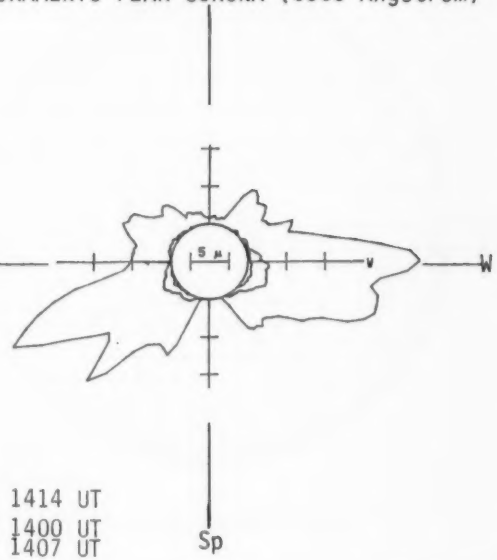
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 04, 1 9 8 3 (P=-23.72, B_o=-3.89, L_o= 58.01)

Sp

1445 UT BOUL Prom

Sp

1.35 R_O 1400 UT
1.55 R_O 1407 UT

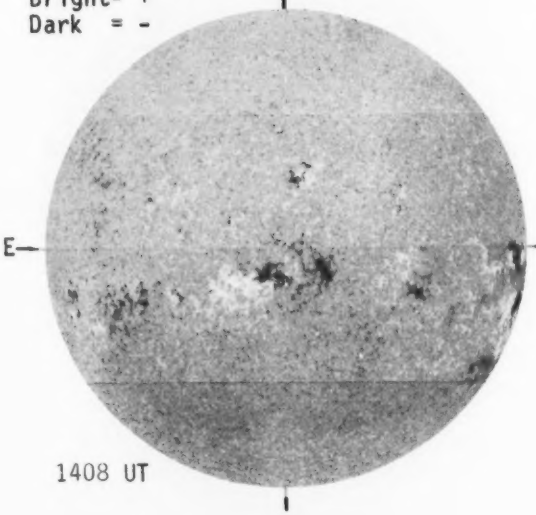
Sp

M A Y 04, 1 9 8 3 (P=-23.72, B_O=-3.89, L_O= 58.01)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

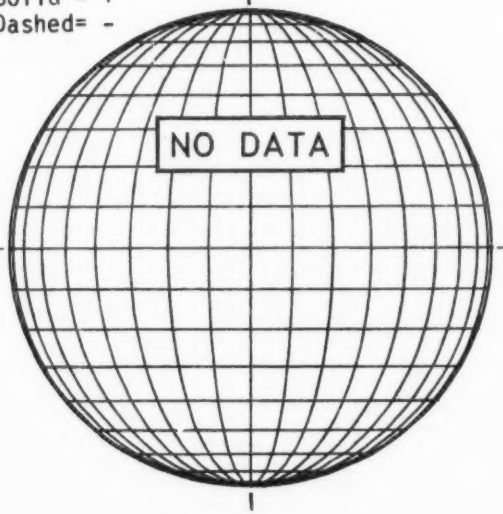
1408 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

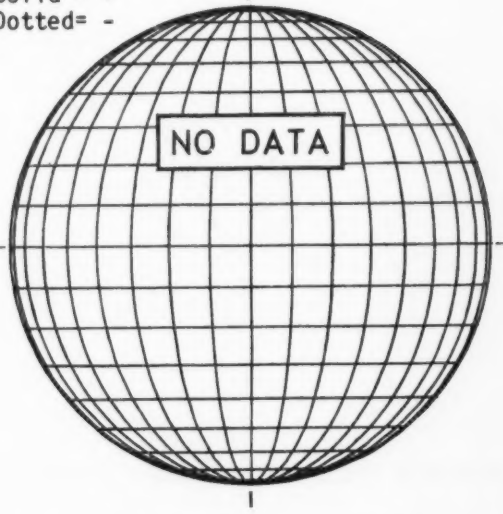


Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -



W

Sp

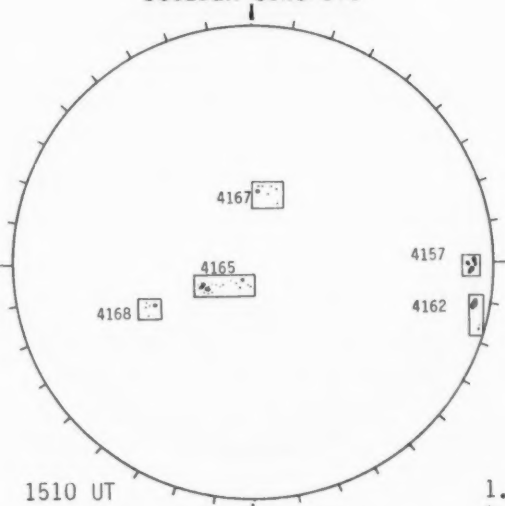
BOULDER H-ALPHA

E

1510 UT

Sp

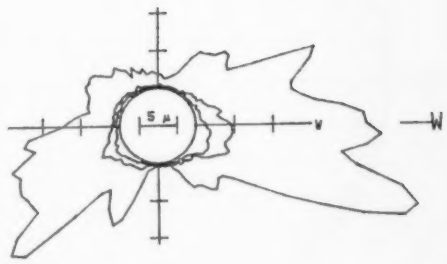
BOULDER SUNSPOTS



1510 UT

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

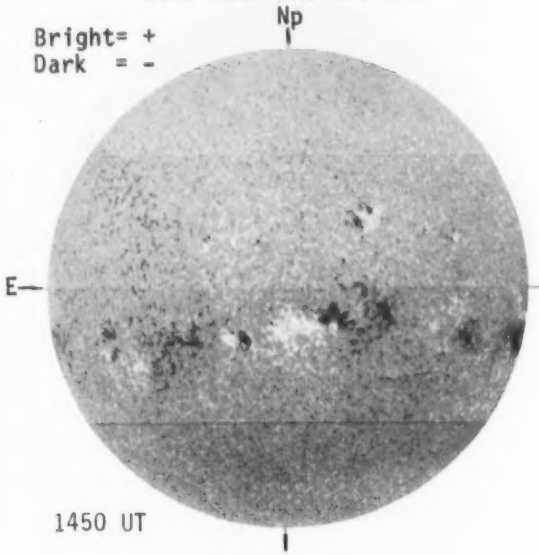
1.15 R_O 1443 UT
1.35 R_O 1448 UT
1.55 R_O 1455 UT

Sp

M A Y 05, 1 9 8 3 (P=-23.52, B_o=-3.79, L_o= 44.79)

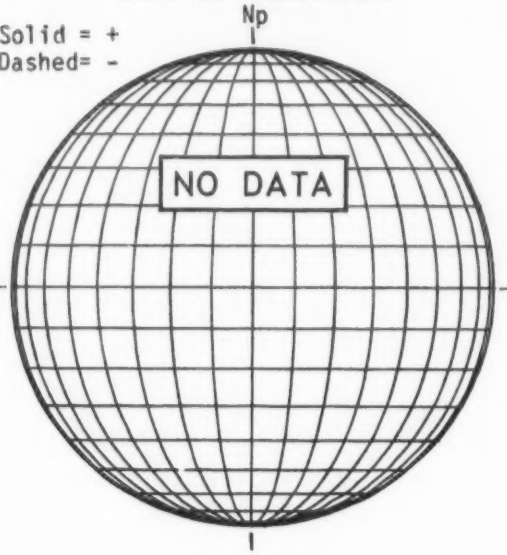
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



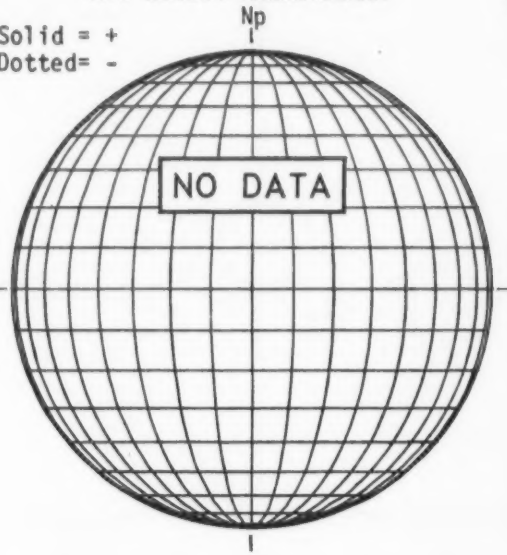
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

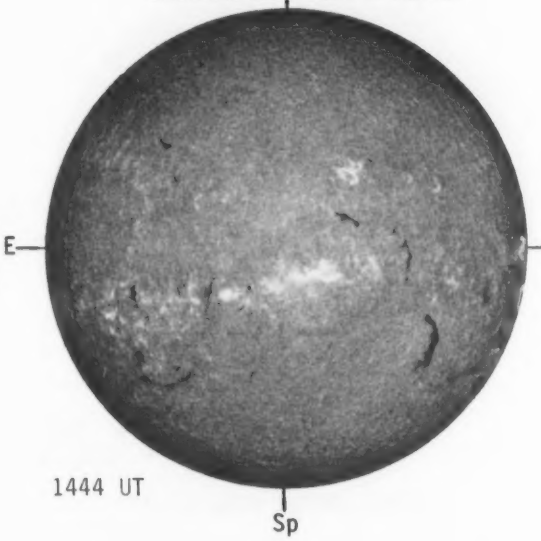


MT. WILSON MAGNETOGRAM

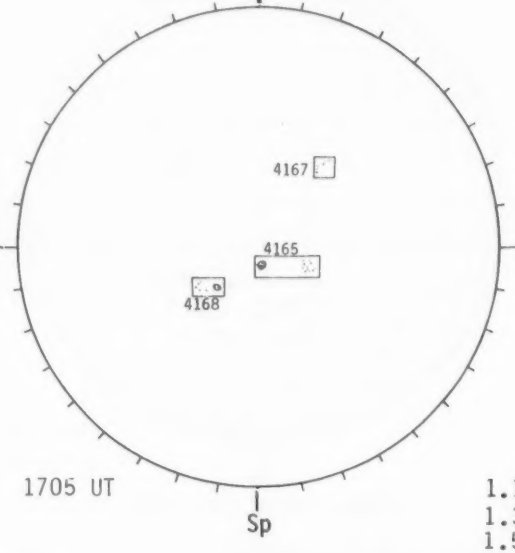
Solid = +
Dotted= -



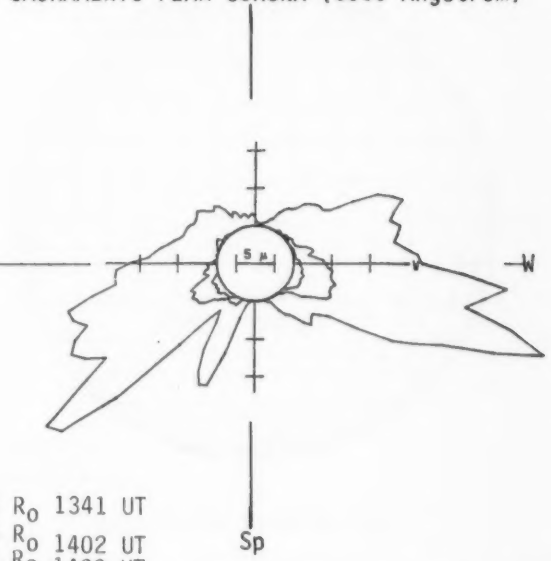
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 06, 1 9 8 3 (P=-23.32, B_o=-3.68, L_o= 31.57)

Sp

Sp

1.35 R_o 1402 UT
1.55 R_o 1409 UT

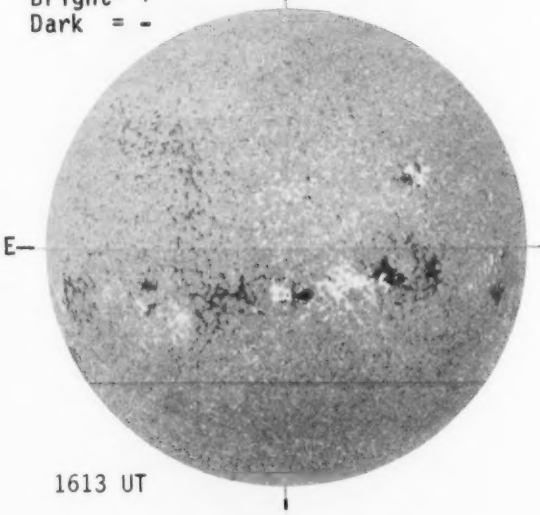
Sp

M A Y 06, 1 9 8 3 (P=-23.32, B_o=-3.68, L_o= 31.57)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



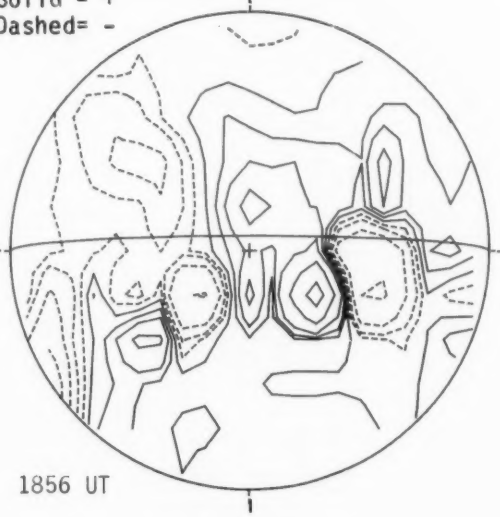
E

1613 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

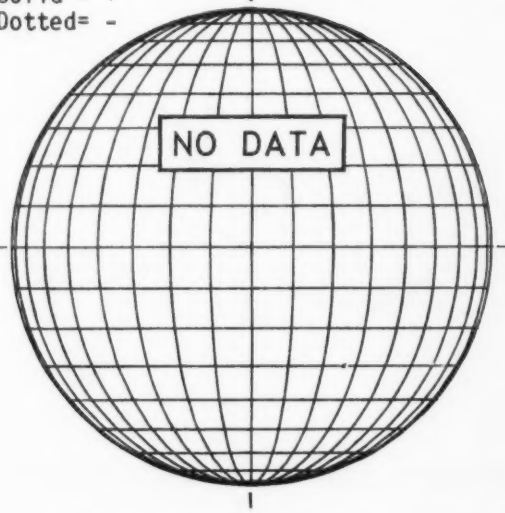


1856 UT

MT. WILSON MAGNETOGRAM

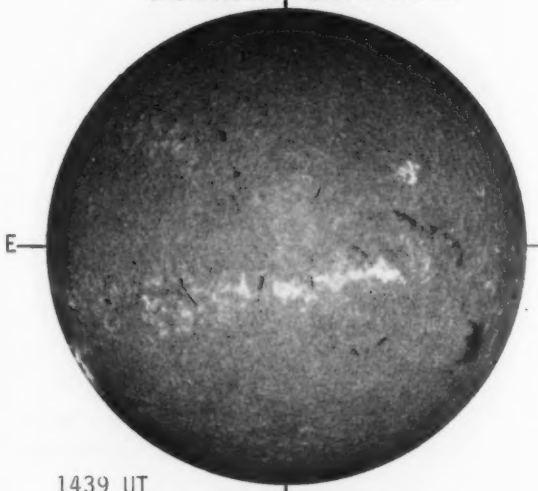
Np

Solid = +
Dotted= -



W

SACRAMENTO PEAK H-ALPHA

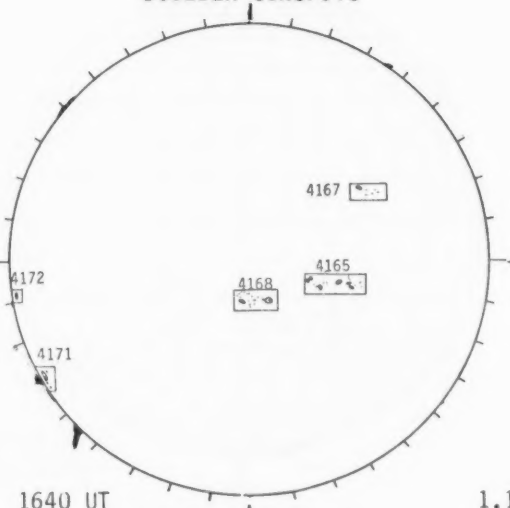


E

1439 UT

Sp

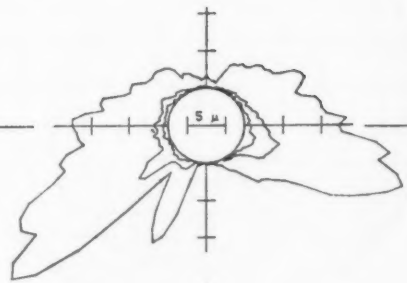
BOULDER SUNSPOTS



1640 UT
1715 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

1.15 R_o 1409 UT
1.35 R_o 1354 UT
1.55 R_o 1401 UT

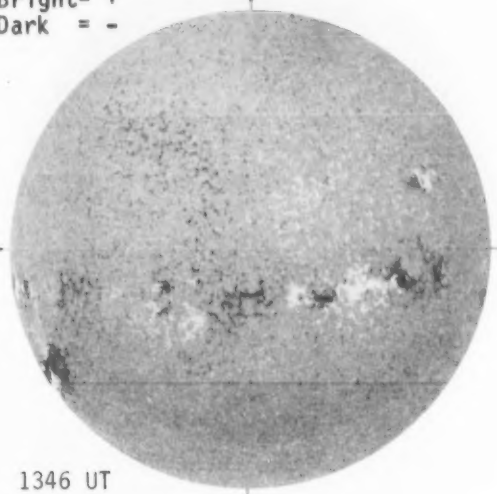
Sp

M A Y 07, 1 9 8 3 (P=-23.11, B_o=-3.58, L_o= 18.35)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



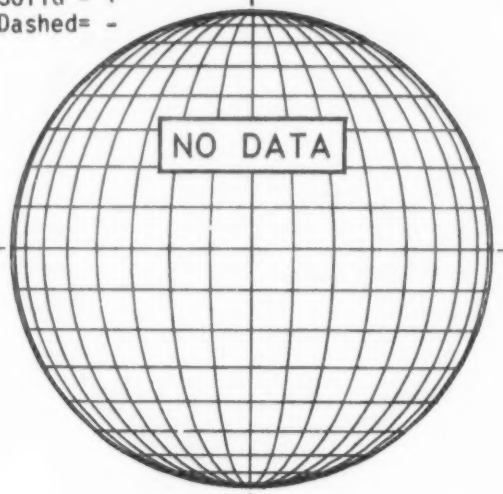
E

1346 UT

STANFORD MAGNETOGRAM

Np

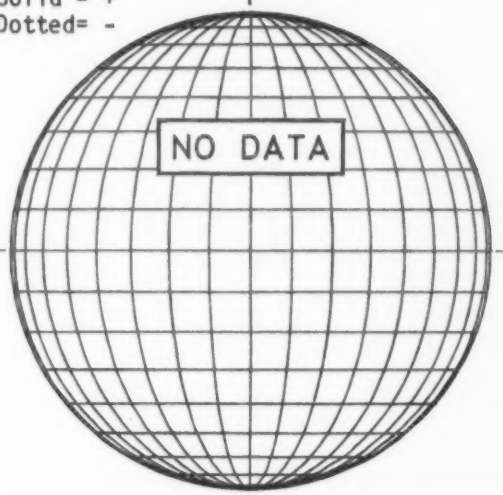
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

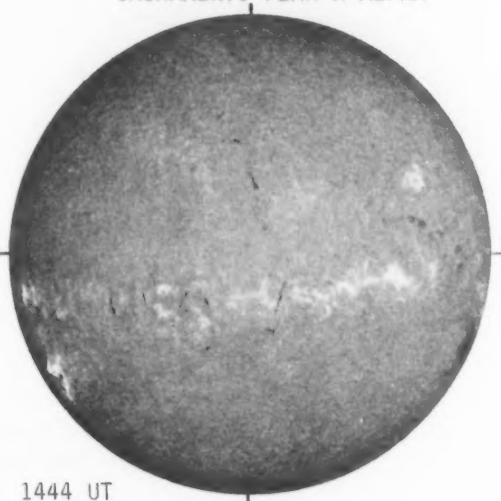
Np

Solid = +
Dotted= -



W

SACRAMENTO PEAK H-ALPHA

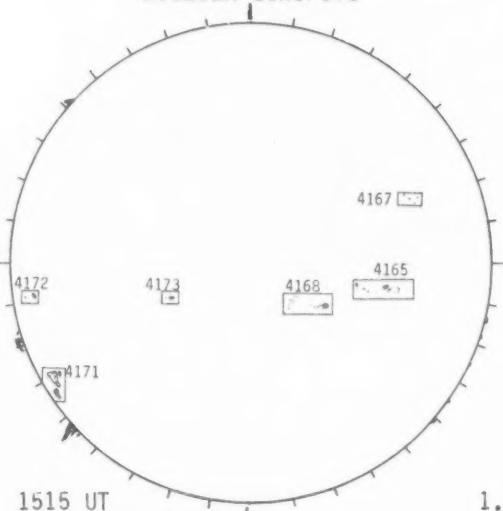


E

1444 UT

Sp

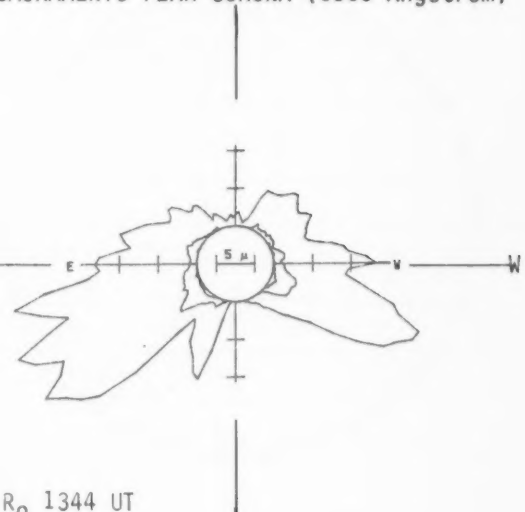
BOULDER SUNSPOTS



1515 UT
1530 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R_o 1344 UT
1.35 R_o 1349 UT
1.55 R_o 1356 UT

Sp

M A Y 08, 1 9 8 3 (P=-22.89, B_o=-3.47, L_o= 5.13)

Sp

1530 UT BOUL Prom

Sp

1.35 R_o 1349 UT
1.55 R_o 1356 UT

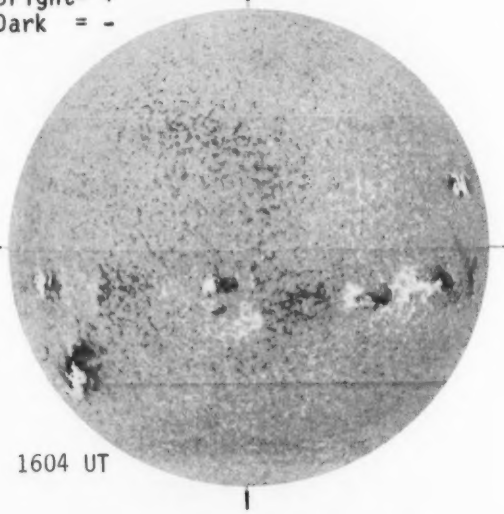
Sp

M A Y 08, 1 9 8 3 (P=-22.89, B_o=-3.47, L_o= 5.13)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

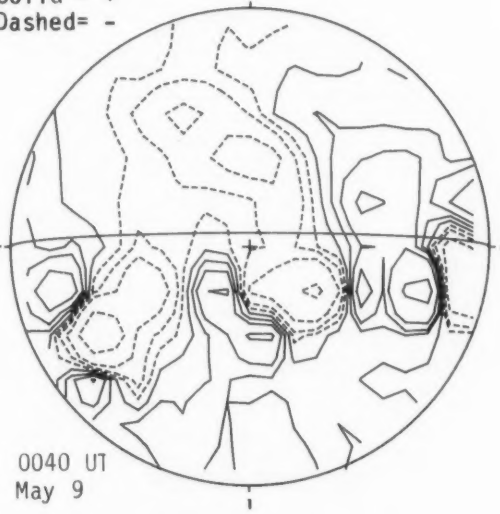
1604 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



0040 UT
May 9

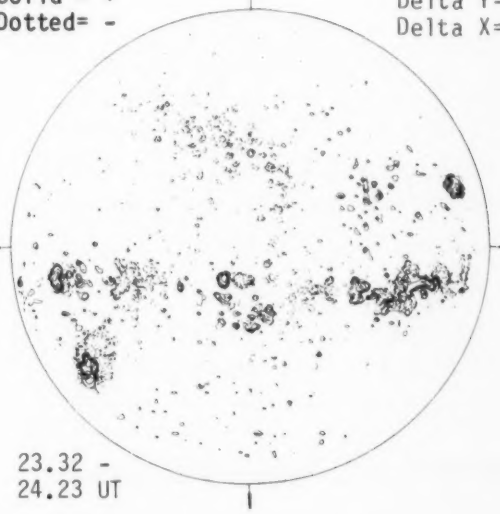
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

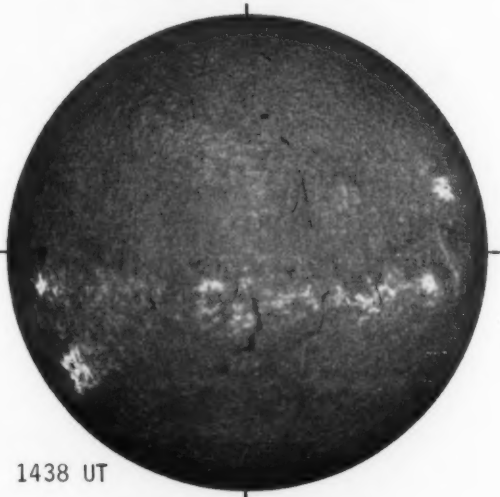


W

23.32 -
24.23 UT

Sp

SACRAMENTO PEAK H-ALPHA

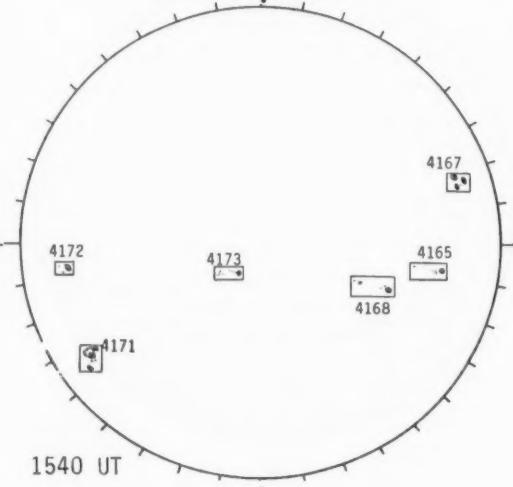


E

1438 UT

Sp

BOULDER SUNSPOTS



1540 UT

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

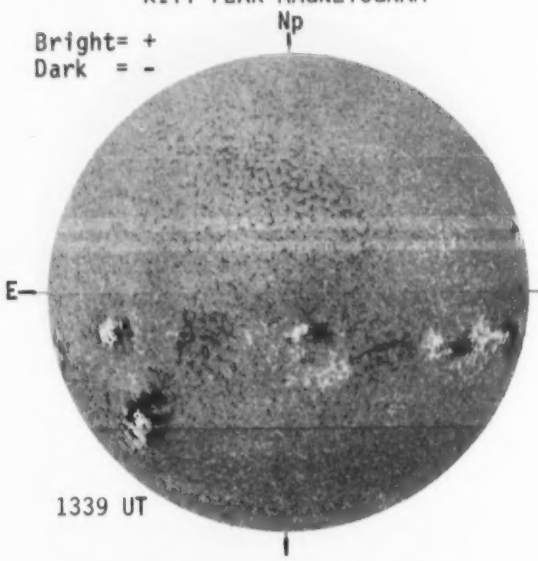
W

Sp

M A Y 09, 1 9 8 3 (P=-22.66, B_o=-3.36, L_o= 351.91)

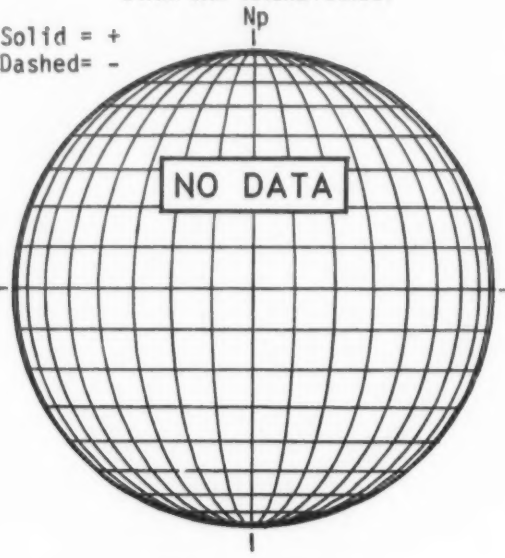
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



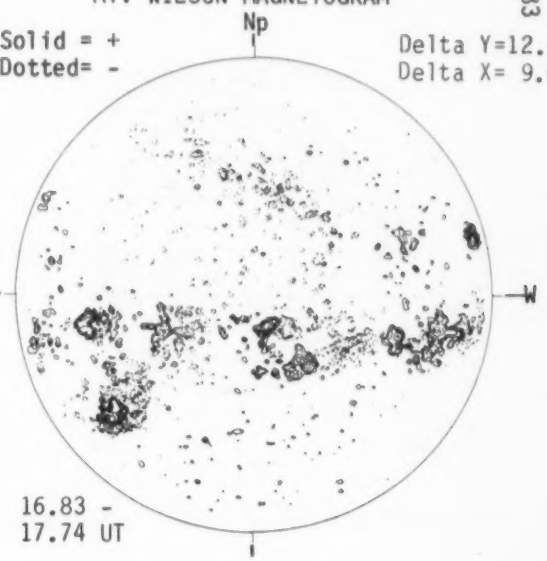
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

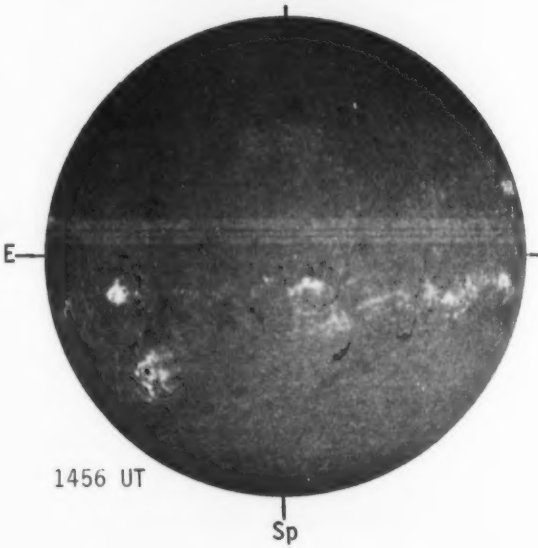


MT. WILSON MAGNETOGRAM

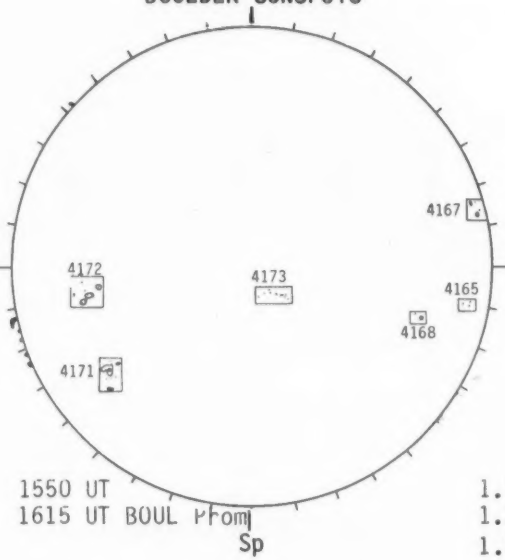
Solid = +
Dotted= -
Delta Y=12.7
Delta X= 9.6



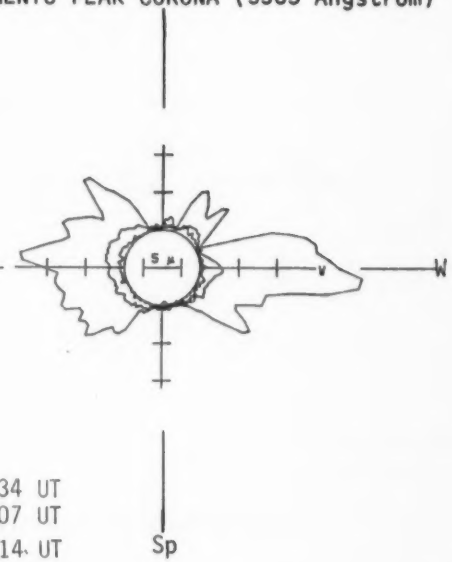
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



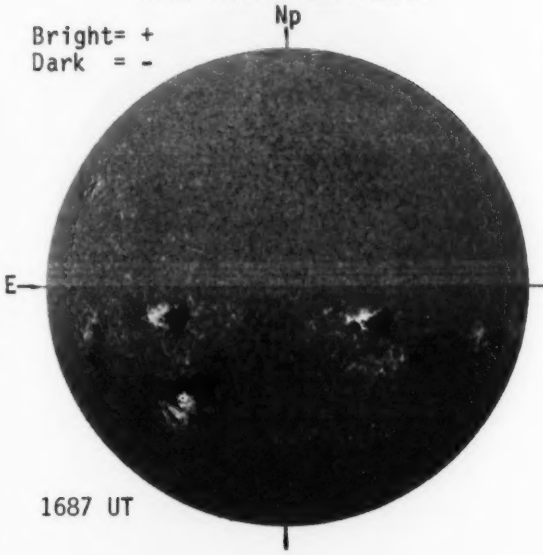
M A Y 10, 1 9 8 3 (P=-22.43, B_o=-3.26, L_o= 338.68)

Sp Sp 1.55 R_o 2214 UT Sp

M A Y 10, 1 9 8 3 (P=-22.43, B_o=-3.26, L_o= 338.68)

KITT PEAK MAGNETOGRAM

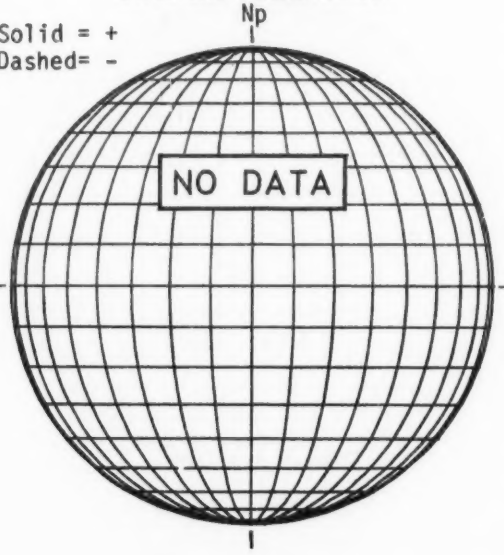
Bright= +
Dark = -



1687 UT

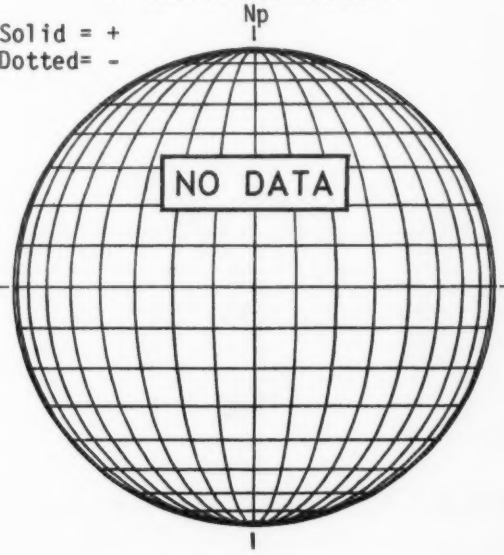
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

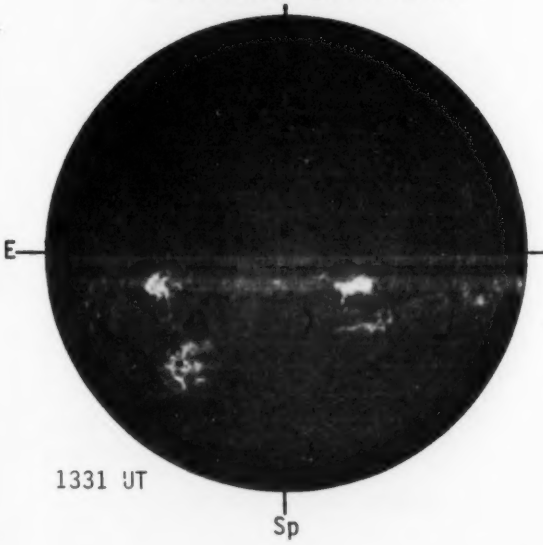


MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

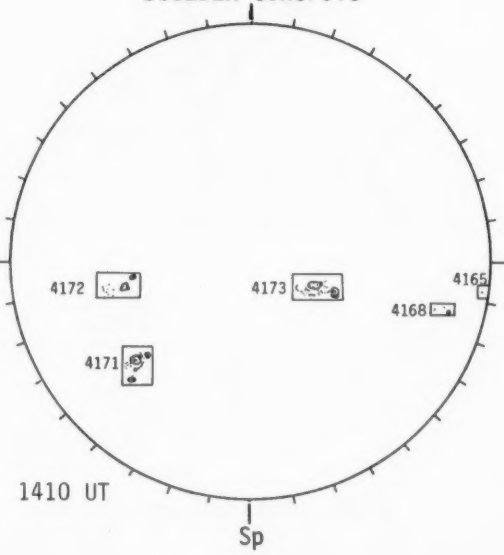


SACRAMENTO PEAK H-ALPHA



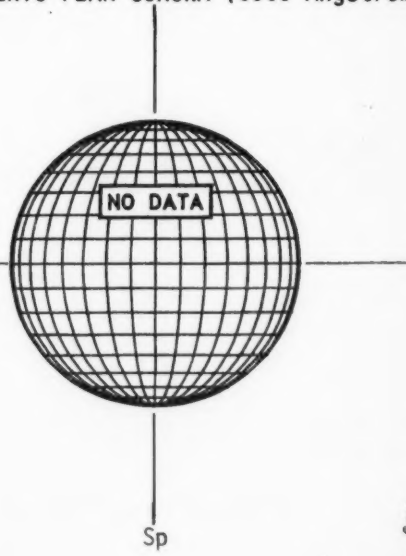
1331 UT

BOULDER SUNSPOTS



1410 UT

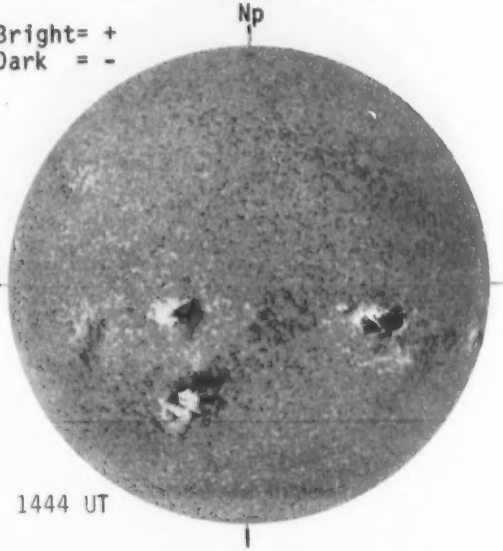
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 11, 1 9 8 3 (P=-22.19, B_0=-3.15, L_0= 325.46)

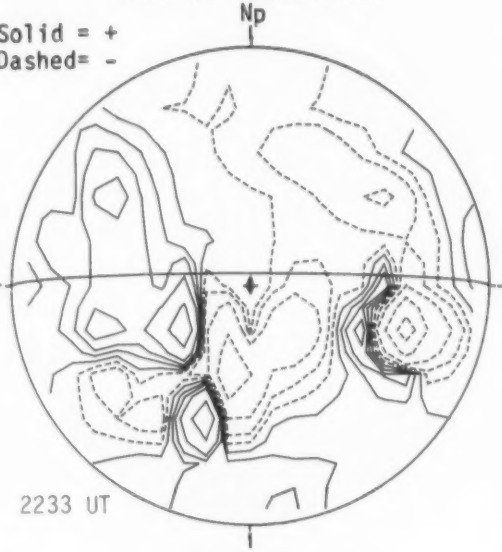
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

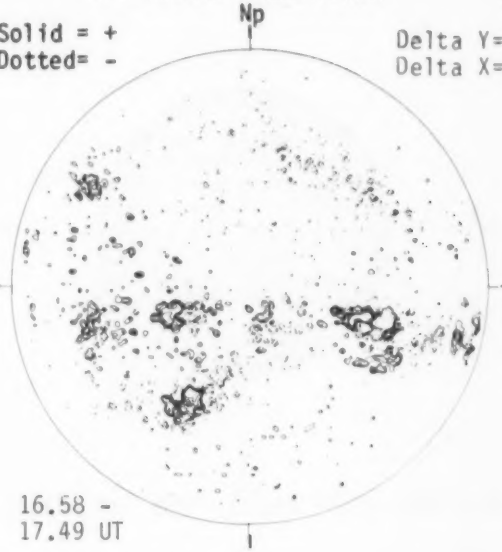
Solid = +
Dashed= -



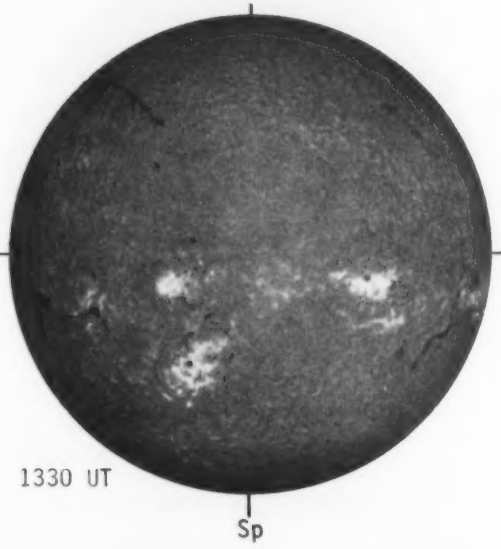
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

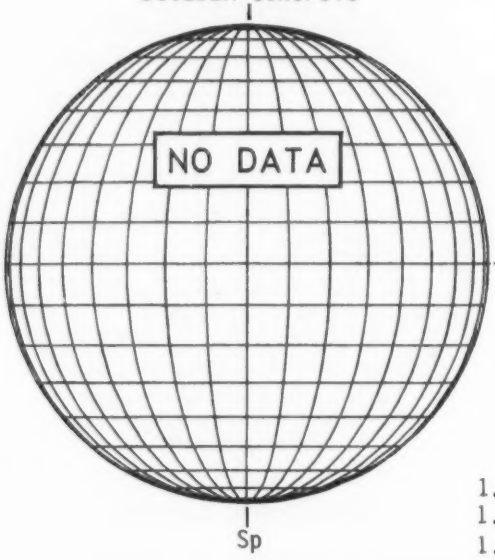
Delta Y=12.7
Delta X= 9.6



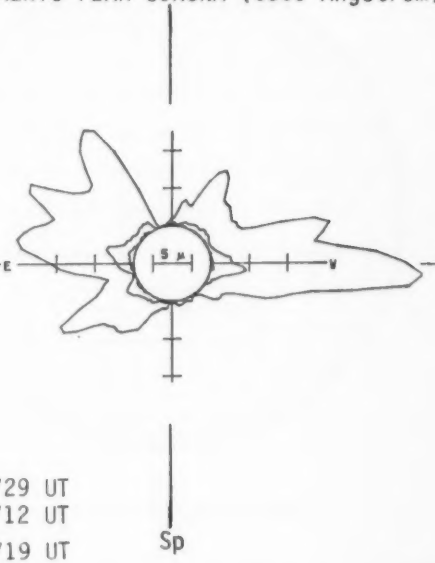
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R_0 1729 UT
1.35 R_0 1712 UT
1.55 R_0 1719 UT

M A Y 12, 1 9 8 3 (P=-21.94, B_0=-3.04, L_0= 312.24)

Sp Sp

1.55 R_o 1712 UT

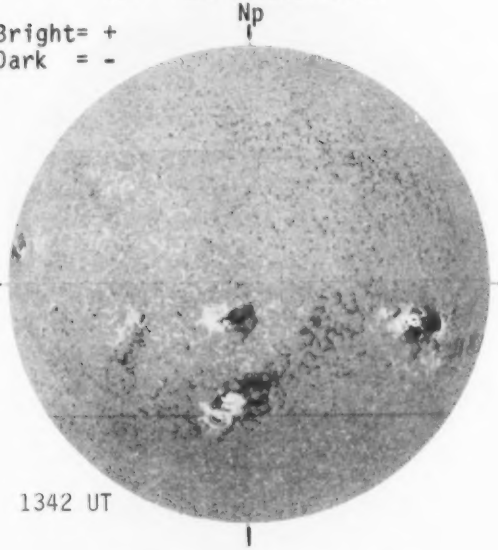
1.55 R_o 1719 UT

Sp

M A Y 12, 1 9 8 3 (P=-21.94, B_o=-3.04, L_o= 312.24)

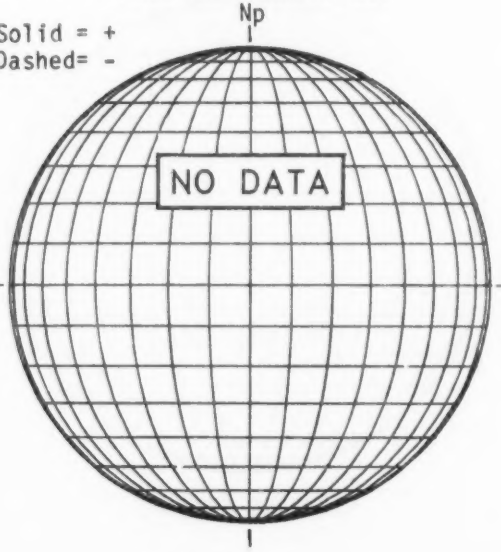
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

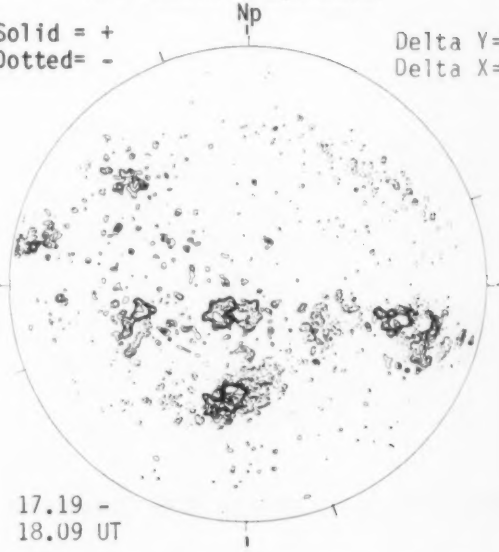
Solid = +
Dashed= -



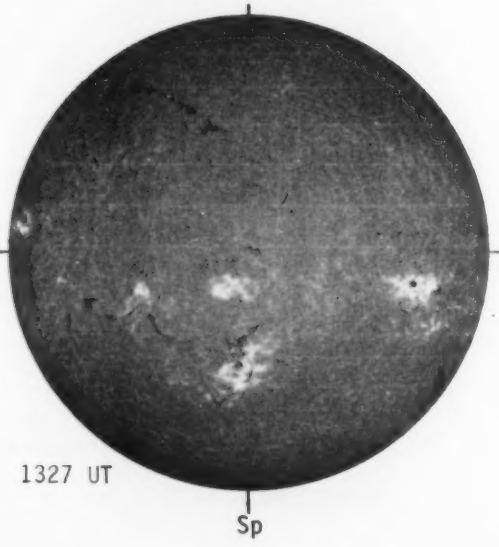
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

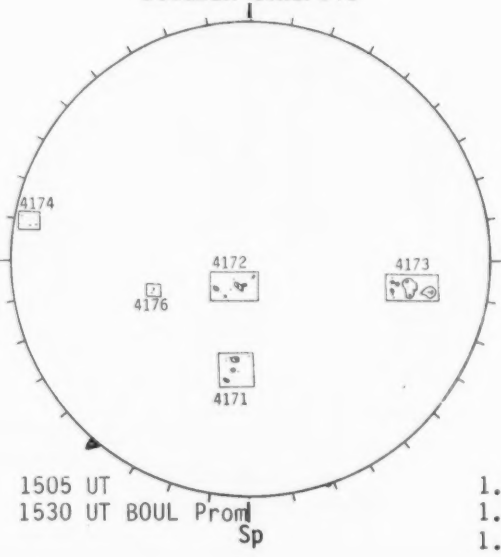
Delta Y=12.7
Delta X= 9.6



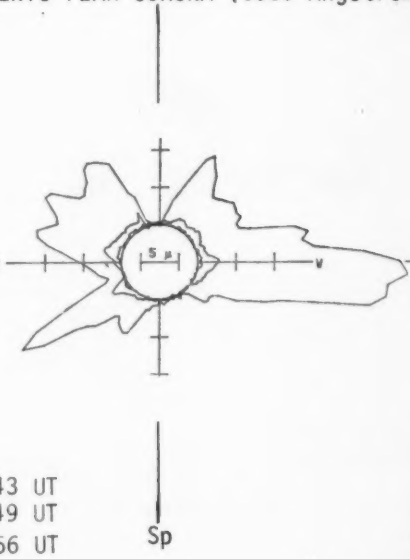
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



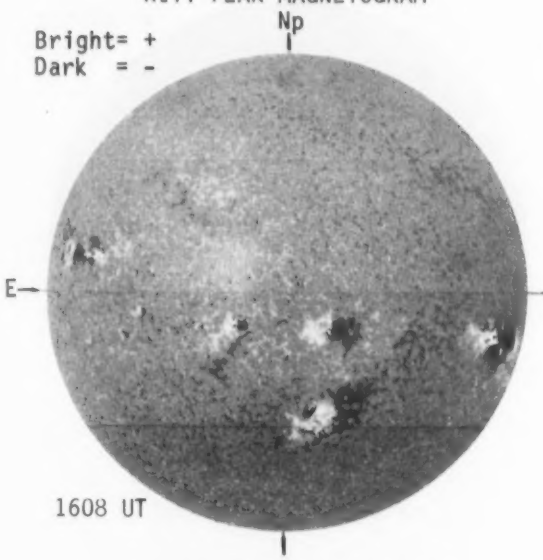
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 13, 1 9 8 3 (P=-21.68, B_o=-2.92, L_o= 299.02)

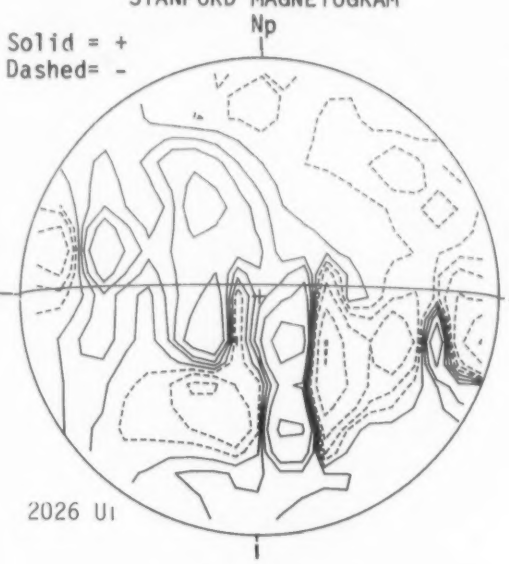
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

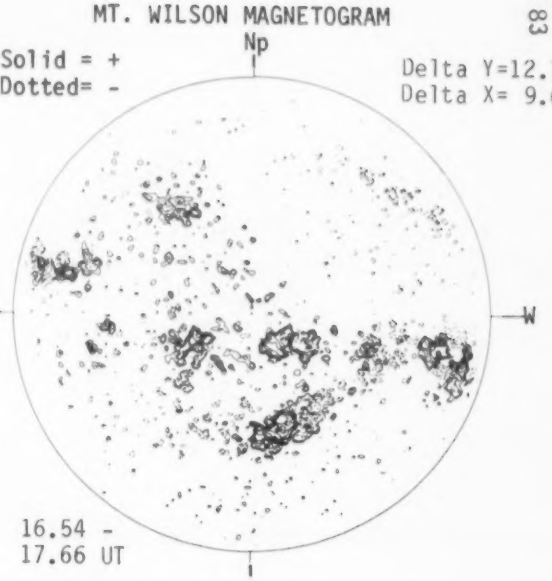
Solid = +
Dashed= -



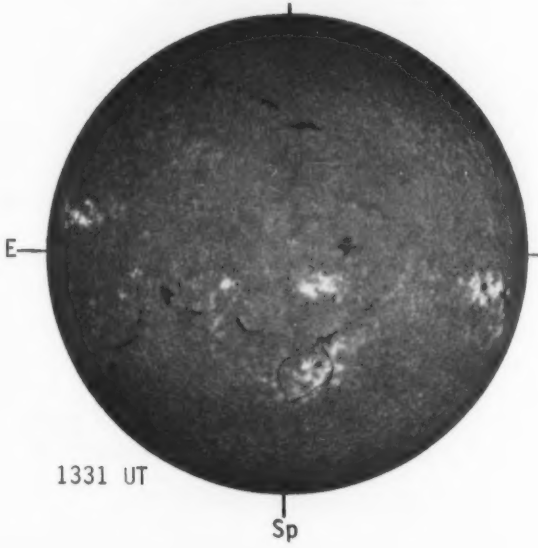
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

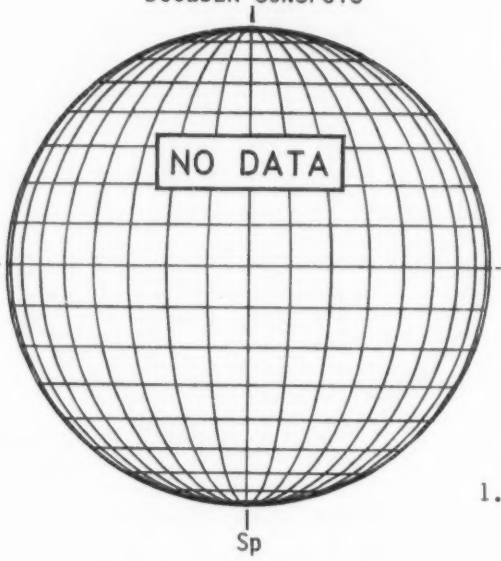
Delta Y=12.7
Delta X= 9.6



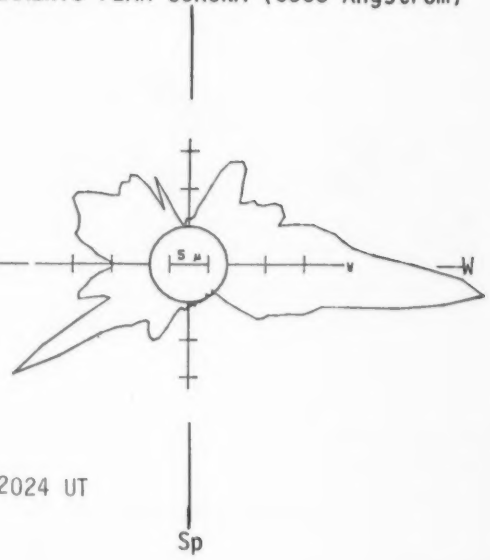
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



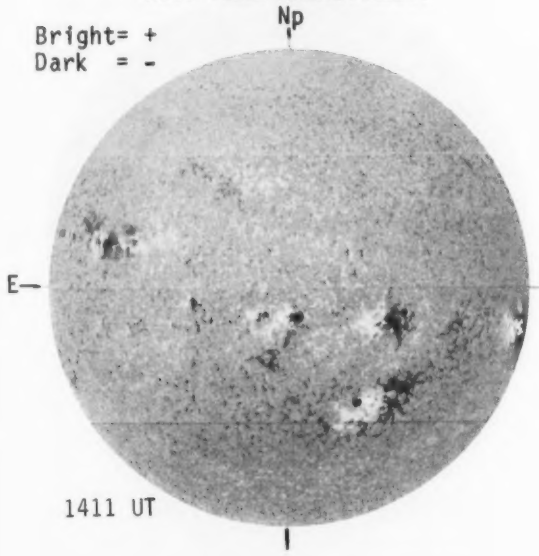
M A Y 14, 1 9 8 3 (P=-21.42, B_o=-2.81, L_o= 285.79)

Sp Sp Sp

M A Y 14, 1 9 8 3 (P=-21.42, B_0=-2.81, L_0= 285.79)

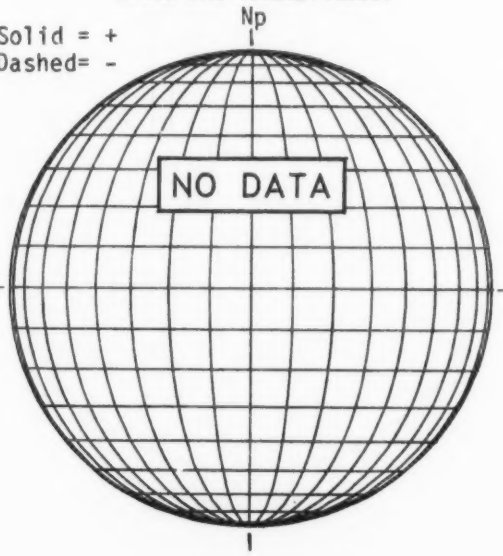
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



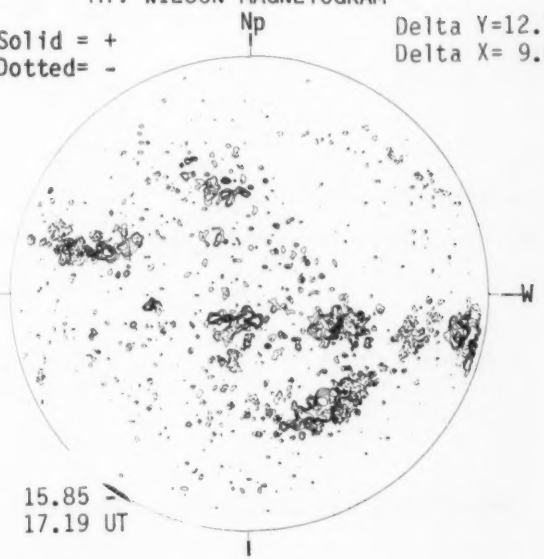
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

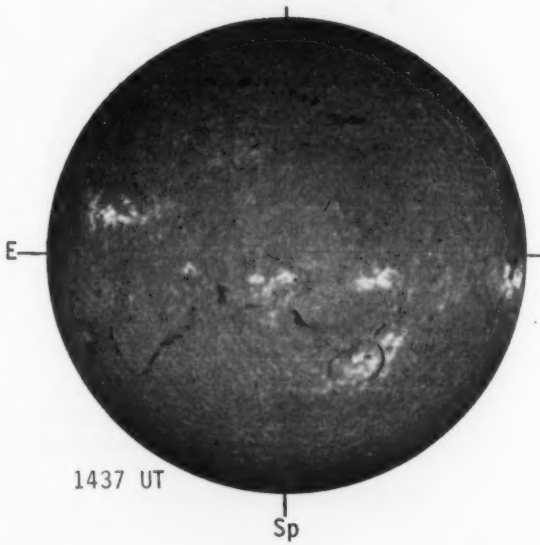


MT. WILSON MAGNETOGRAM

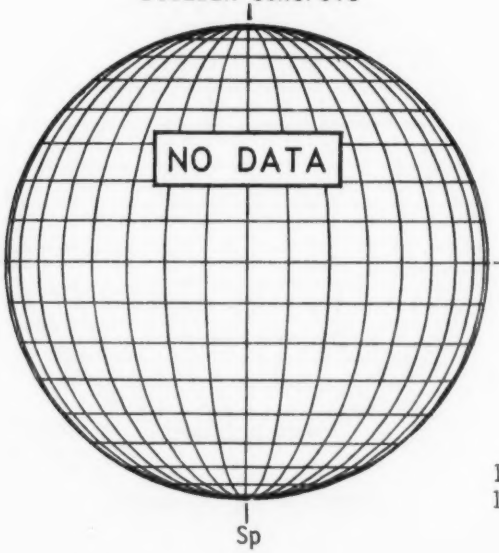
Solid = +
Dotted= -
Delta Y=12.7
Delta X= 9.6



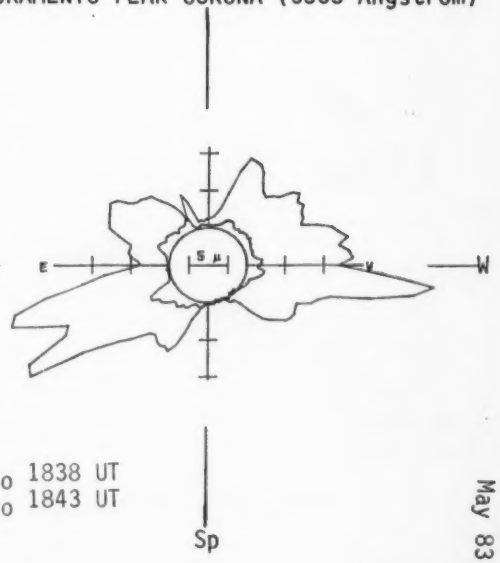
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

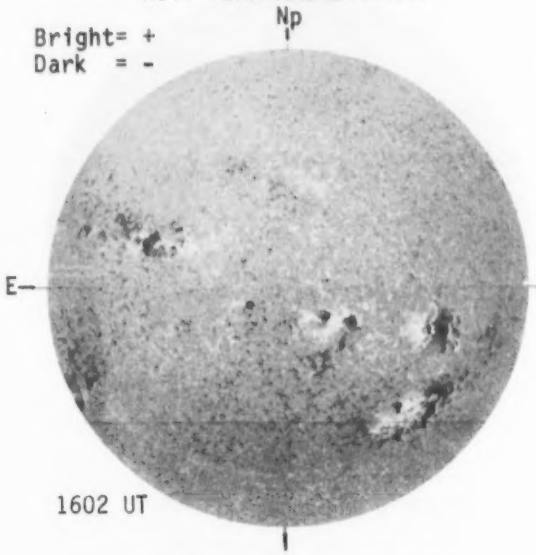


61
May 83

M A Y 15, 1 9 8 3 (P=-21.16, B_o=-2.70, L_o= 272.57)

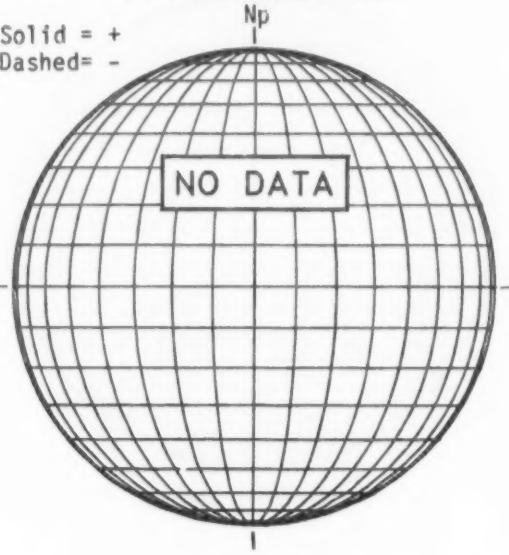
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

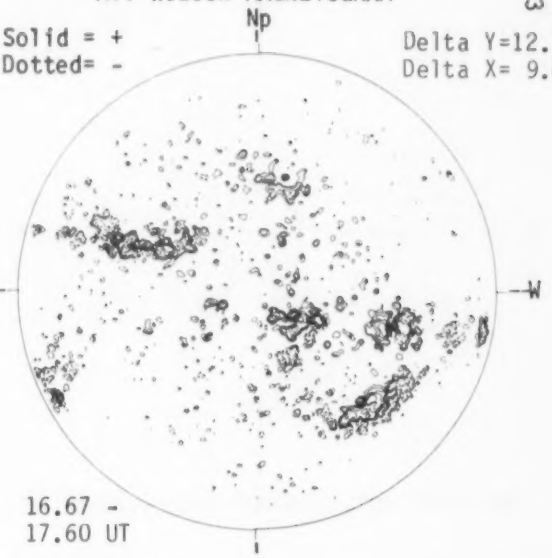
Solid = +
Dashed= -



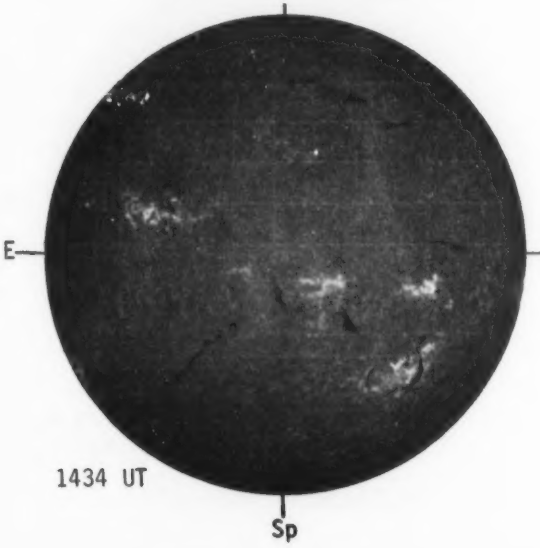
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

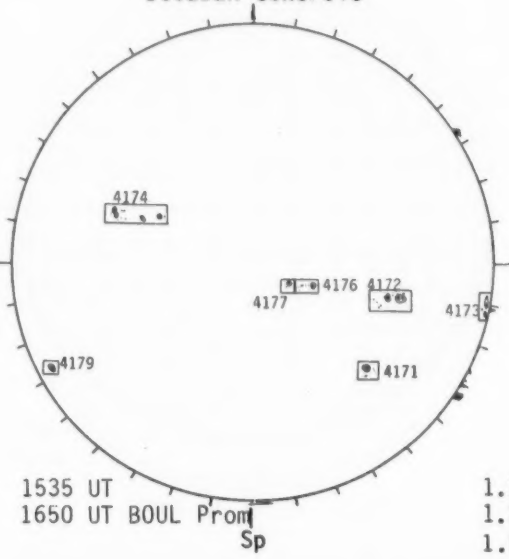
Delta Y=12.7
Delta X= 9.6



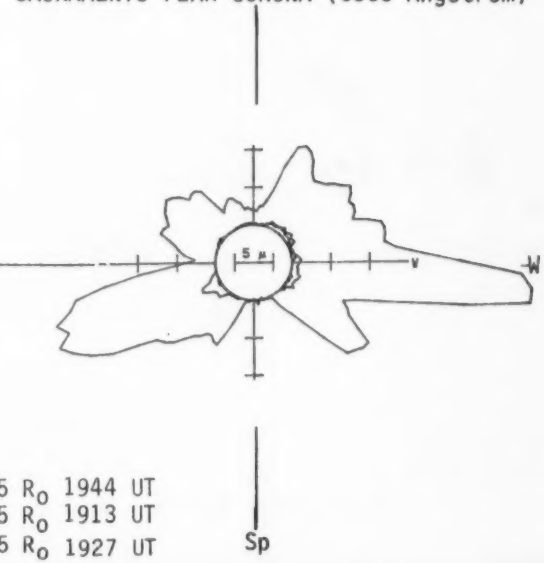
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 16, 1 9 8 3 (P=-20.88, B_o=-2.59, L_o= 259.34)

Sp

1650 UT BOUL Prom

Sp

1.35 R_o 1913 UT
1.55 R_o 1927 UT

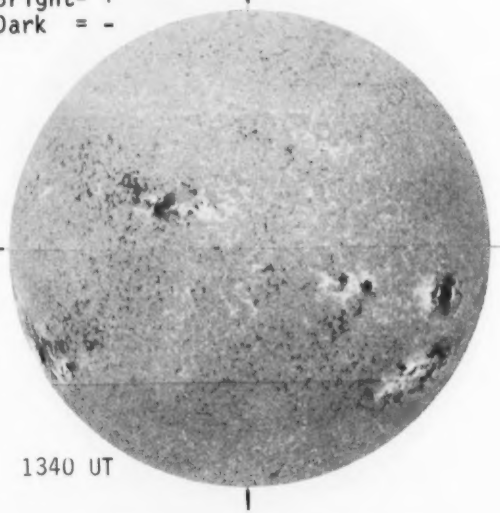
Sp

M A Y 16, 1 9 8 3 (P=-20.88, B_o=-2.59, L_o= 259.34)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



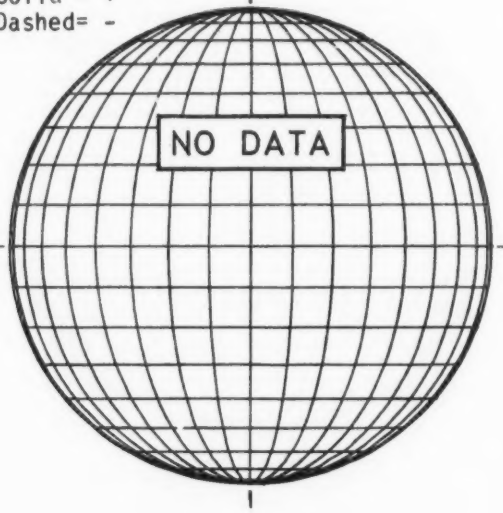
E

1340 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

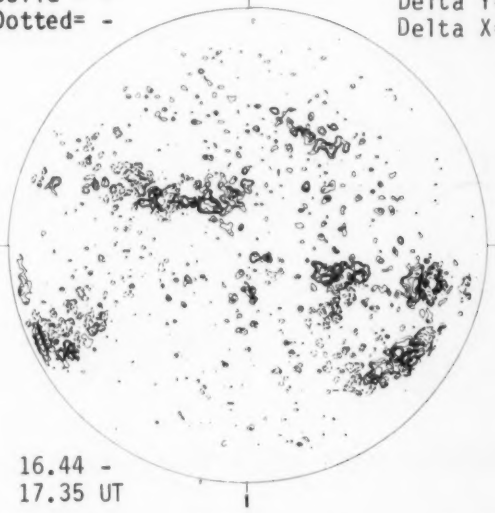


MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

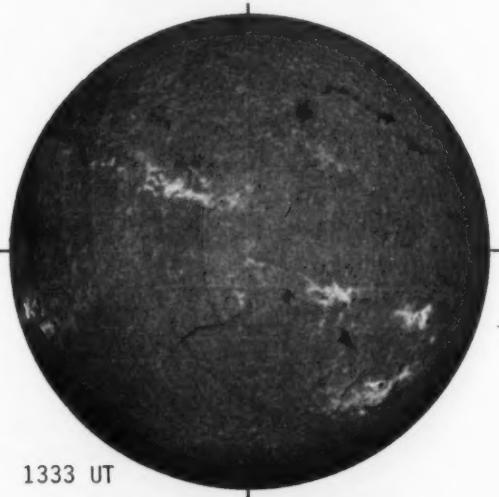
Delta Y=12.6
Delta X= 9.6



W

16.44 -
17.35 UT

SACRAMENTO PEAK H-ALPHA

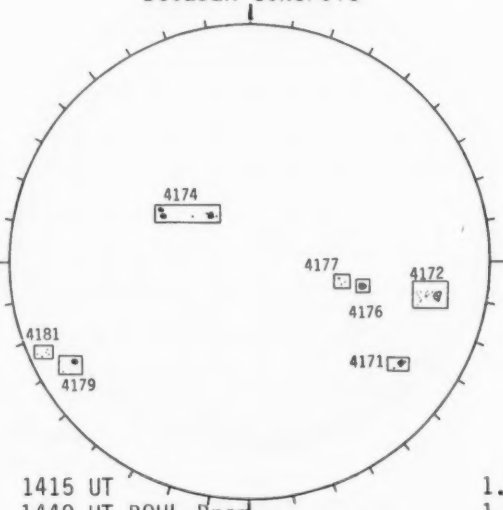


E

1333 UT

Sp

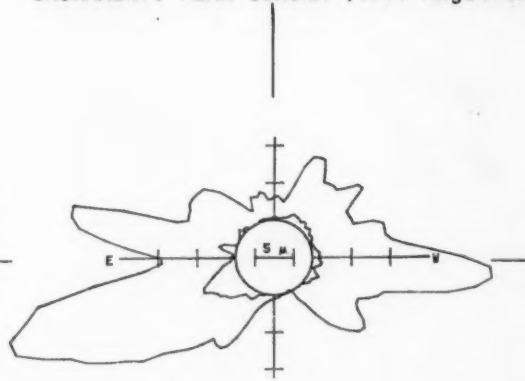
BOULDER SUNSPOTS



1415 UT
1440 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



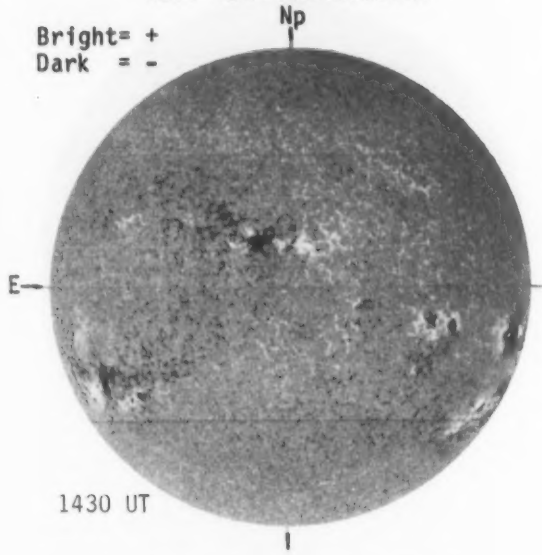
1.15 R_o 1652 UT
1.35 R_o 1657 UT

Sp

M A Y 17, 1 9 8 3 (P=-20.60, B_0=-2.47, L_0= 246.12)

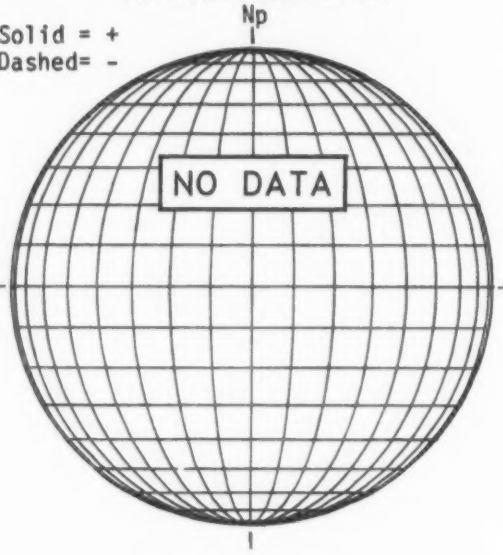
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

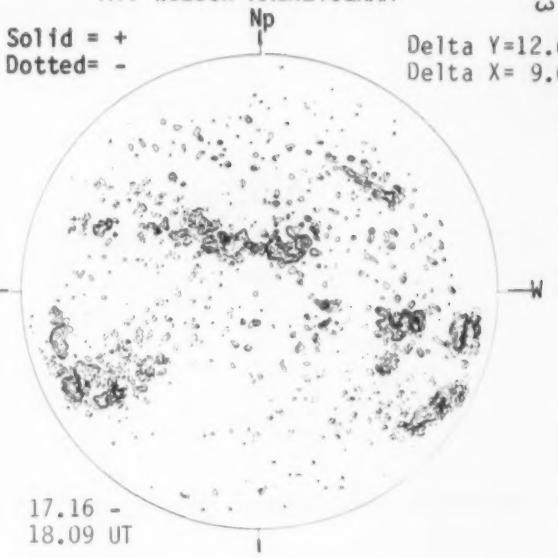
Solid = +
Dashed= -



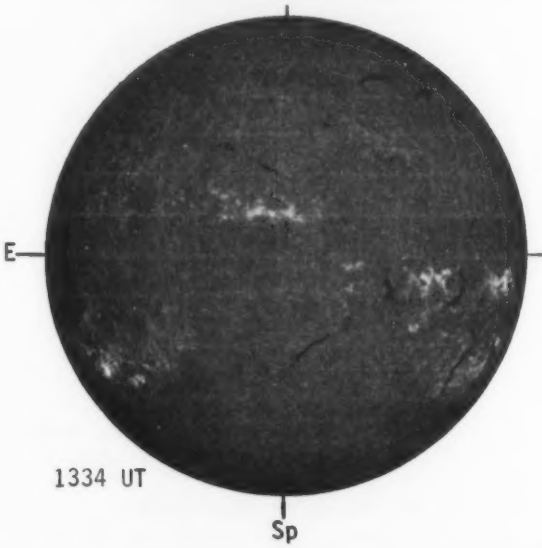
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

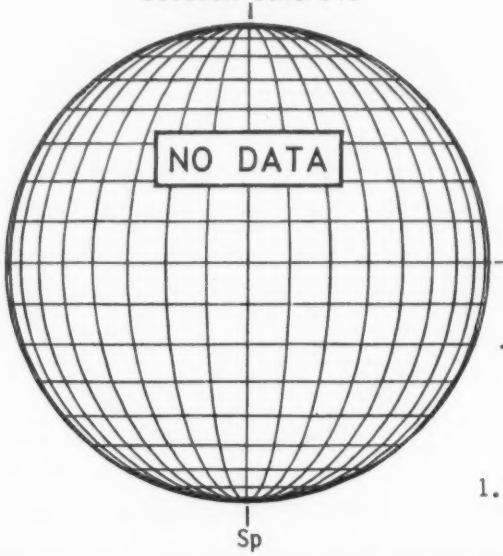
Delta Y=12.6
Delta X= 9.6



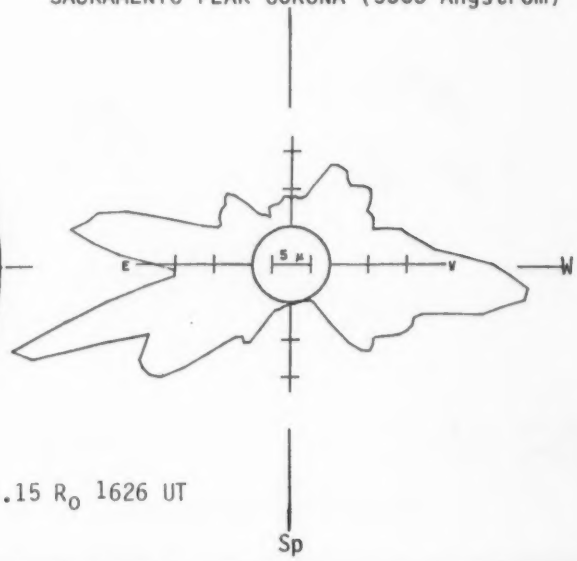
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



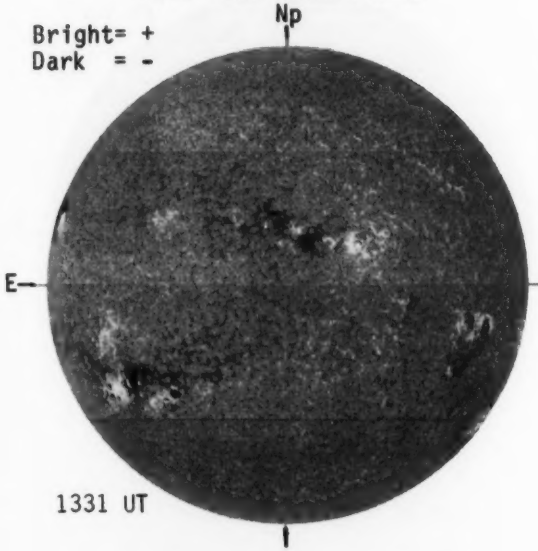
M A Y 18, 1 9 8 3 (P=-20.31, B_0=-2.36, L_0= 232.89)

Sp Sp Sp

M A Y 18, 1 9 8 3 (P=-20.31, B_o=-2.36, L_o= 232.89)

KITT PEAK MAGNETOGRAM

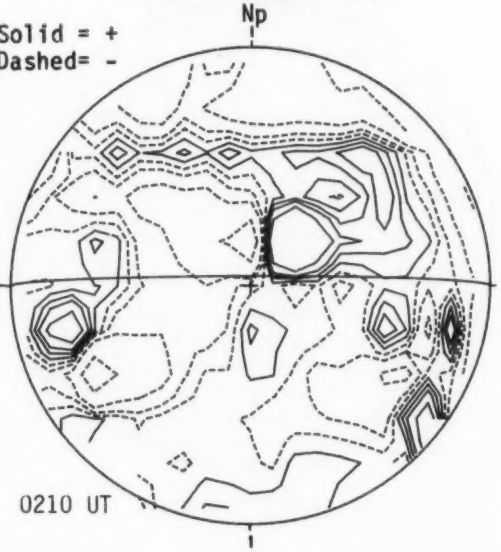
Bright= +
Dark = -



1331 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

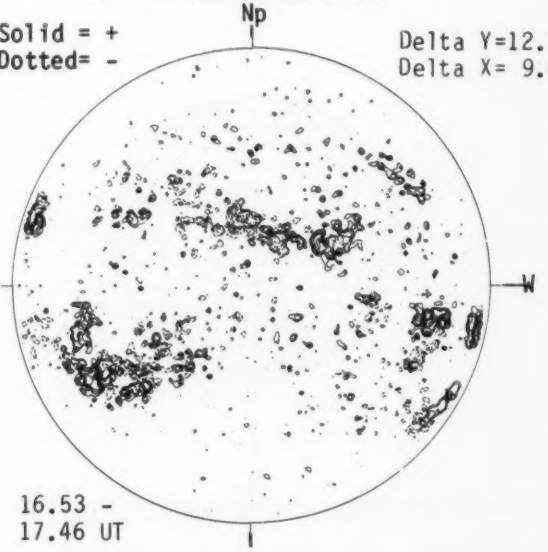


0210 UT

MT. WILSON MAGNETOGRAM

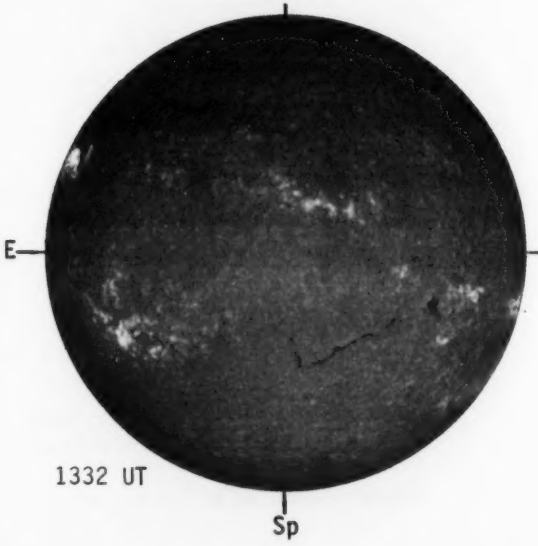
Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6



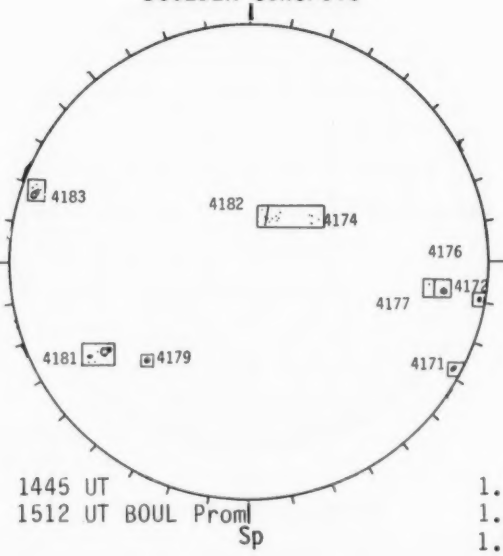
16.53 -
17.46 UT

SACRAMENTO PEAK H-ALPHA



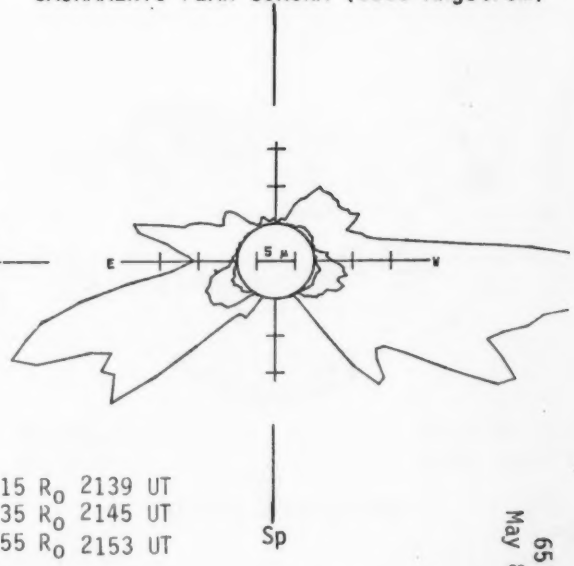
1332 UT

BOULDER SUNSPOTS



1445 UT
1512 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)

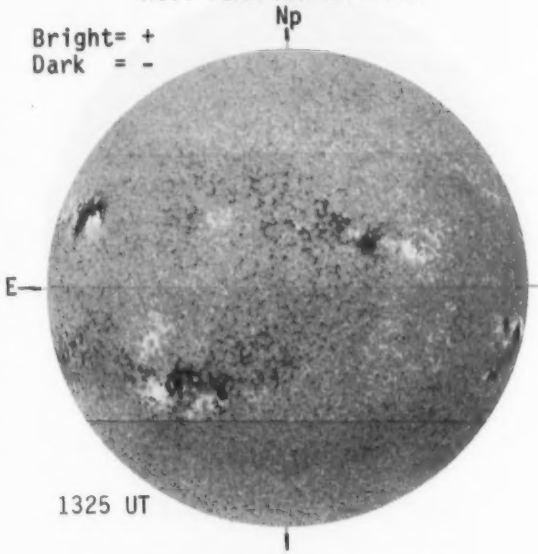


1.15 R_o 2139 UT
1.35 R_o 2145 UT
1.55 R_o 2153 UT

M A Y 19, 1 9 8 3 (P=-20.02, B_0=-2.24, L_0= 219.66)

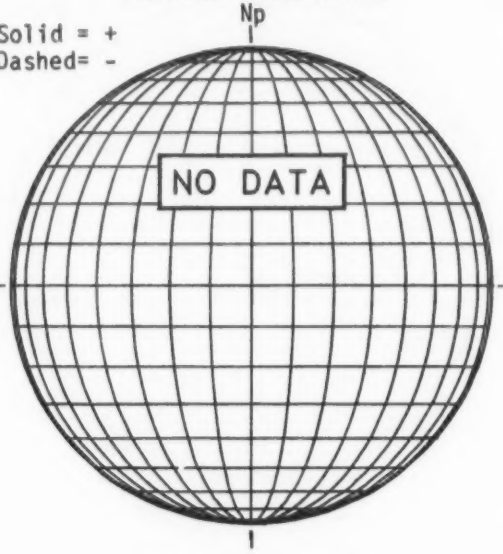
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

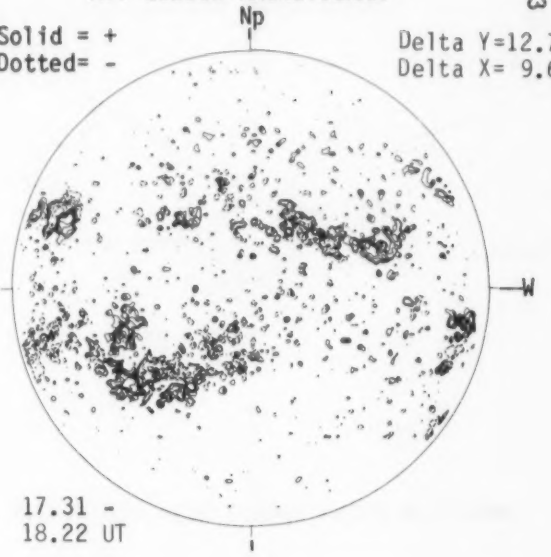
Solid = +
Dashed= -



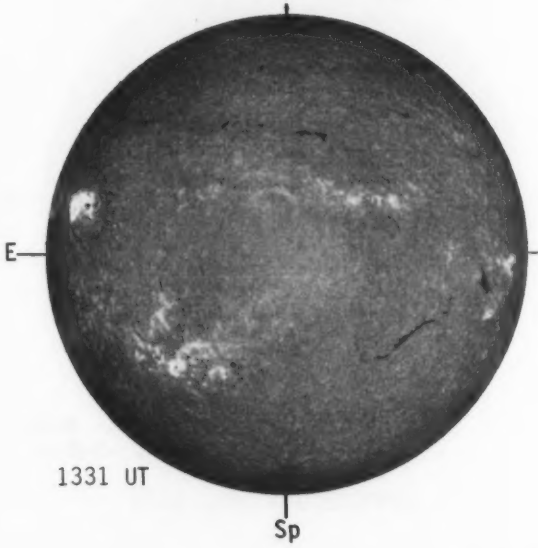
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

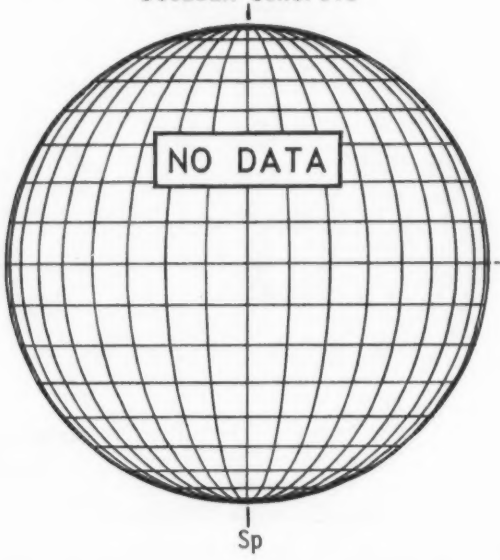
Delta Y=12.7
Delta X= 9.6



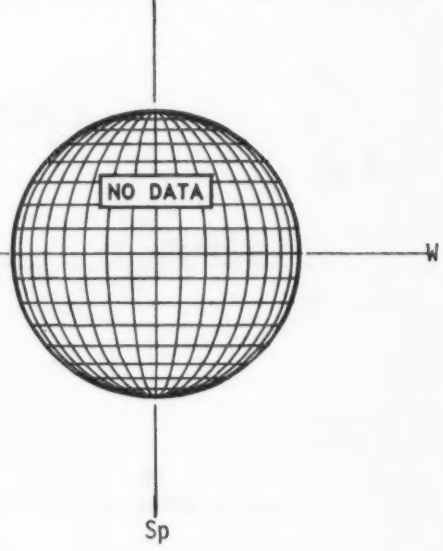
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

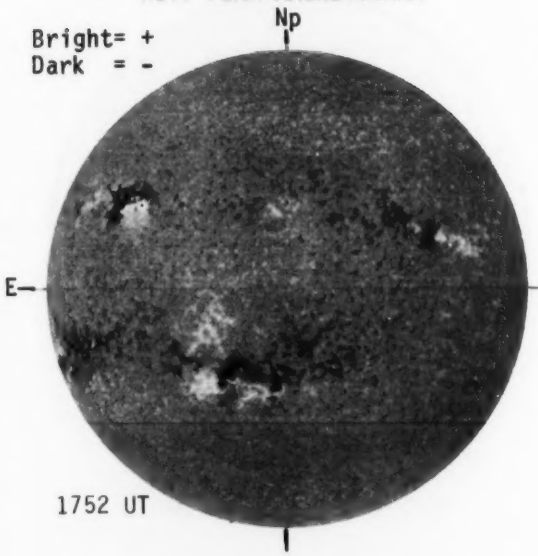


M A Y 20, 1 9 8 3 (P=-19.72, B_0=-2.13, L_0= 206.43)

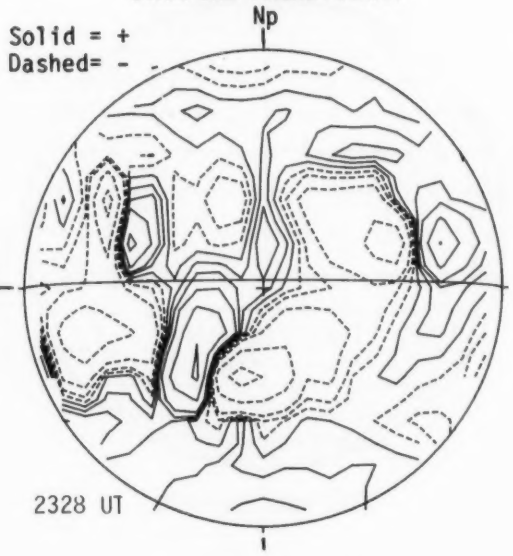
Sp Sp Sp

M A Y 20, 1 9 8 3 (P=-19.72, B_o=-2.13, L_o= 206.43)

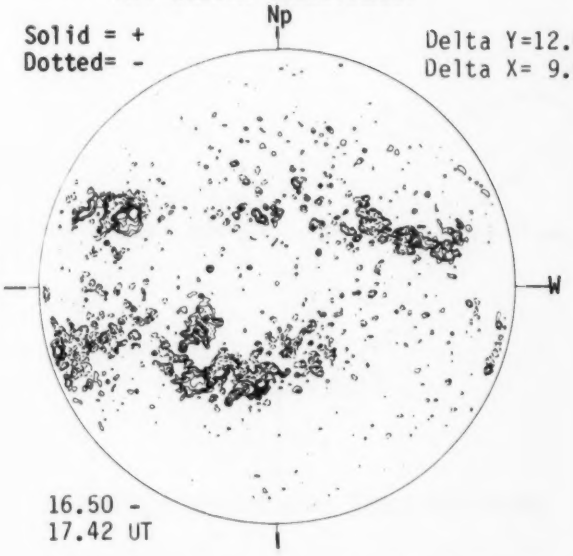
KITT PEAK MAGNETOGRAM



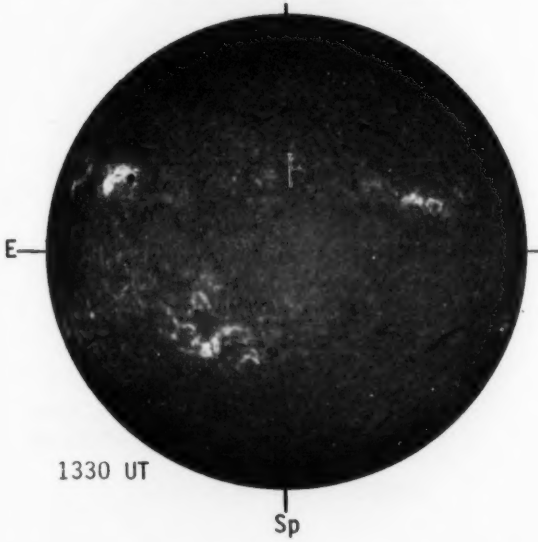
STANFORD MAGNETOGRAM



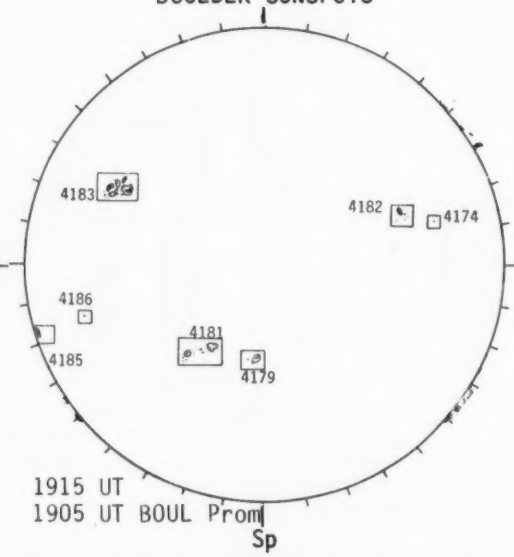
MT. WILSON MAGNETOGRAM



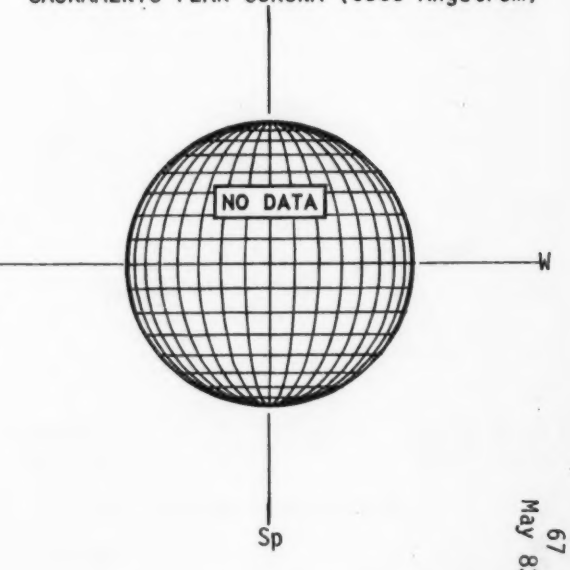
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

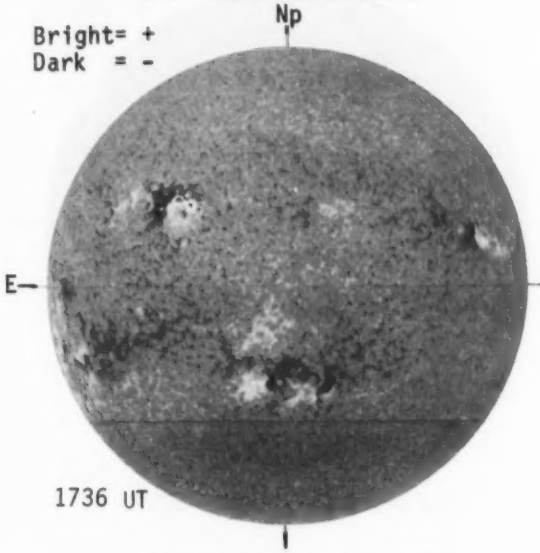


67
May 83

M A Y 21, 1 9 8 3 (P=-19.42, B_o=-2.01, L_o= 193.20)

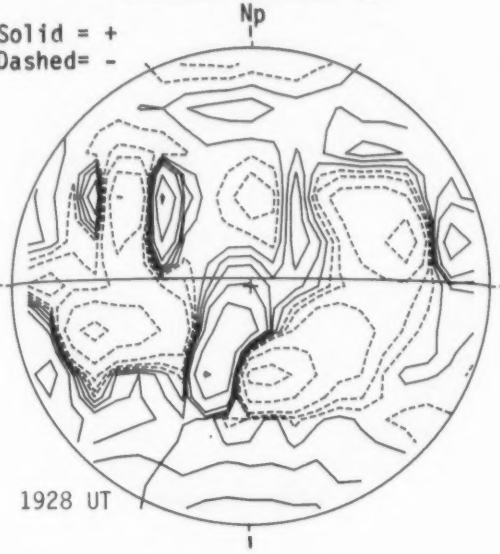
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

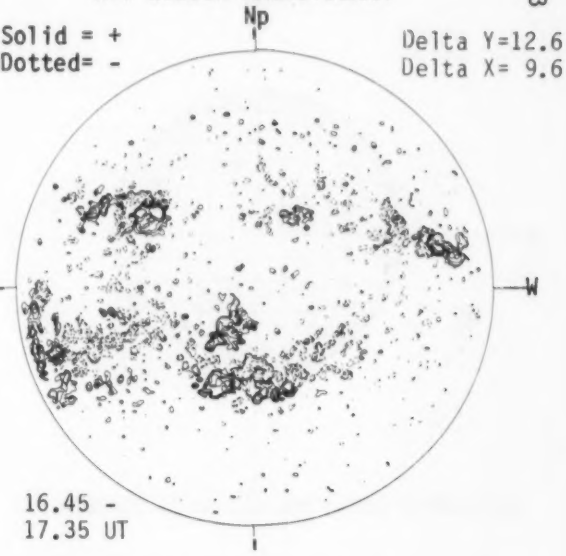
Solid = +
Dashed= -



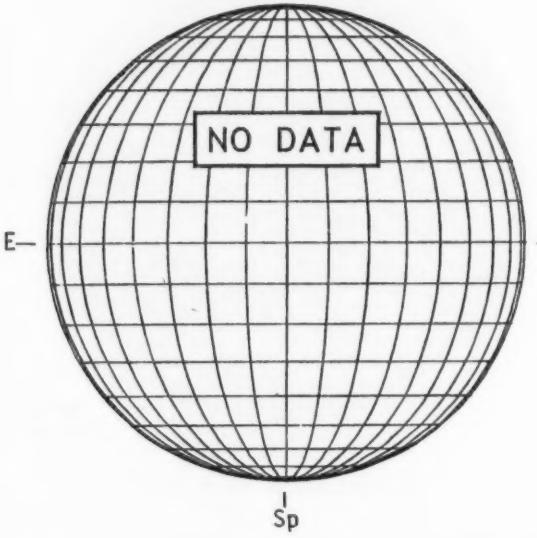
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

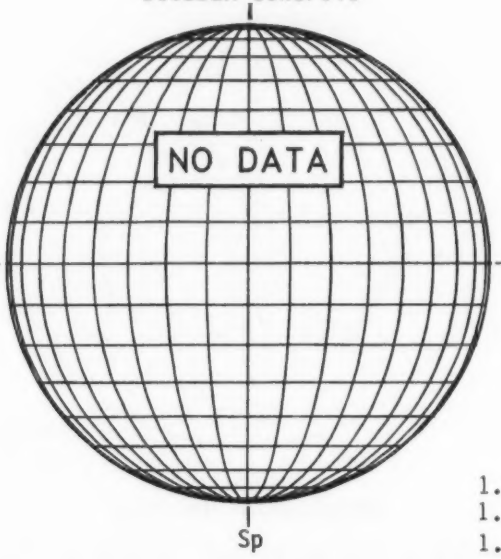
Delta Y=12.6
Delta X= 9.6



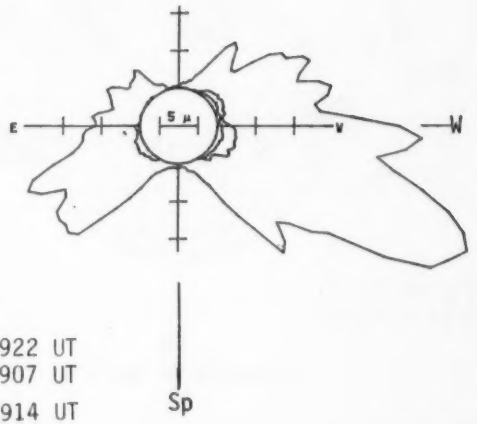
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R_o 1922 UT
1.35 R_o 1907 UT
1.55 R_o 1914 UT

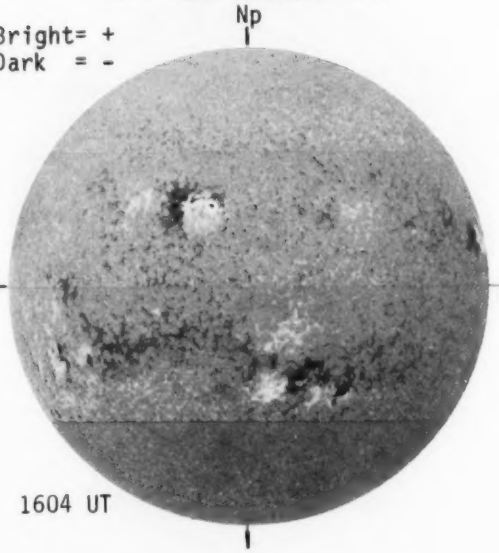
M A Y 22, 1 9 8 3 (P=-19.10, B_o=-1.89, L_o= 179.98)

Sp Sp 1.55 R_o 1914 UT Sp

M A Y 22, 1 9 8 3 (P=-19.10, B_o=-1.89, L_o= 179.98)

KITT PEAK MAGNETOGRAM

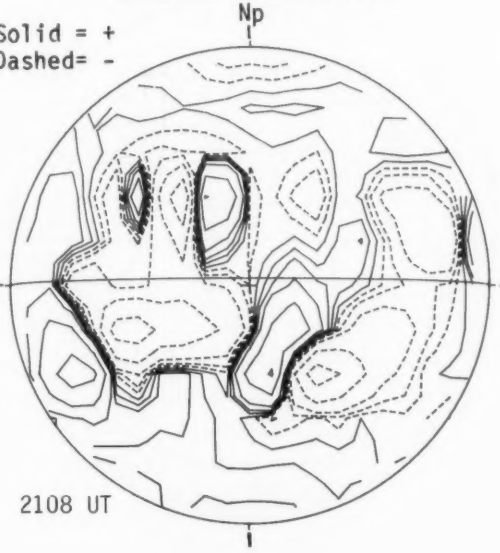
Bright= +
Dark = -



1604 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

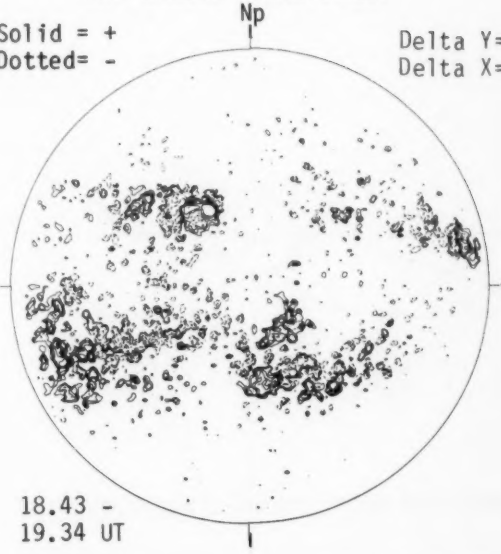


2108 UT

MT. WILSON MAGNETOGRAM

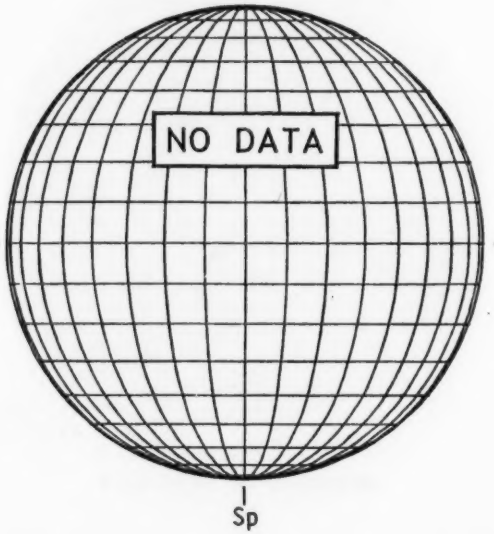
Solid = +
Dotted= -

Delta Y=12.6
Delta X= 9.6

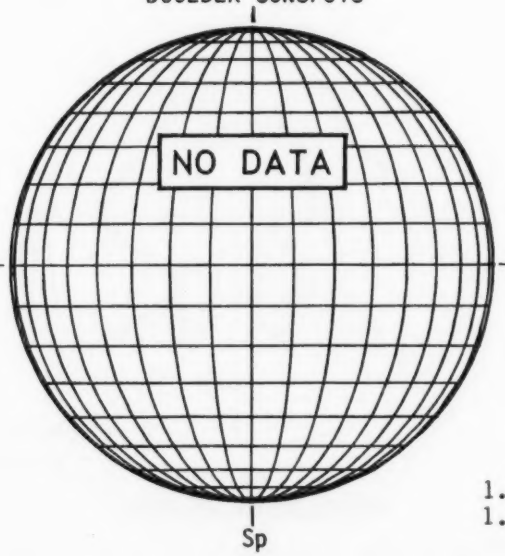


18.43 -
19.34 UT

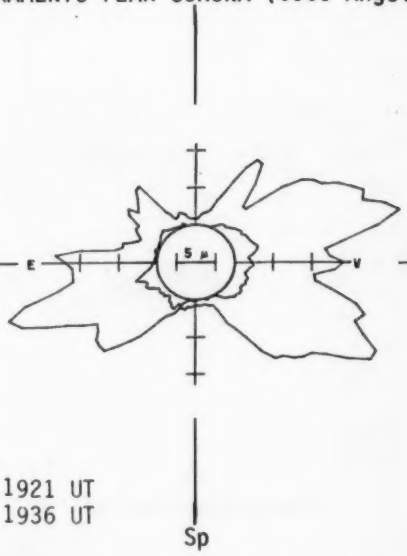
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



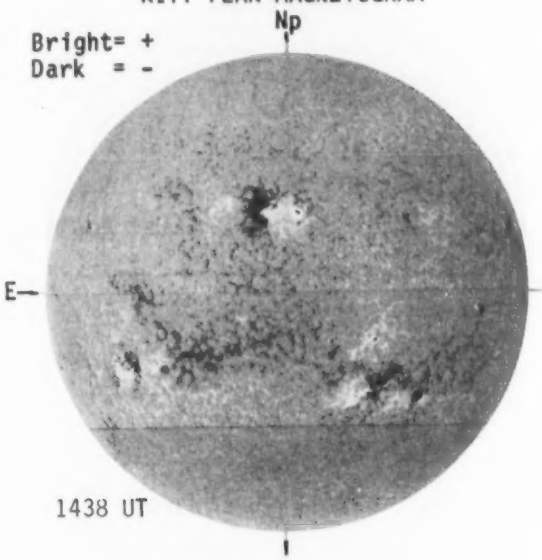
SACRAMENTO PEAK CORONA (5303 Angstrom)



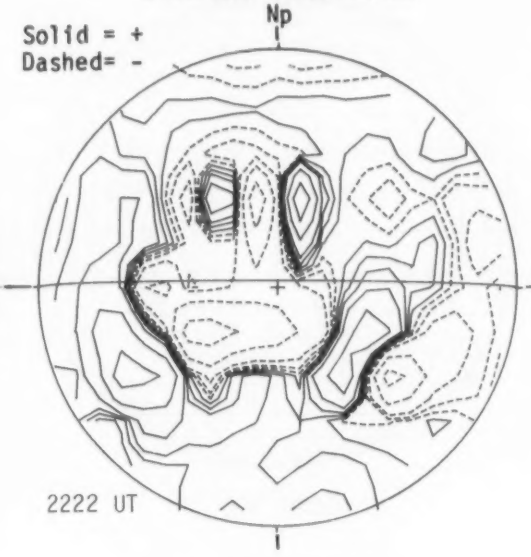
1.15 R_o 1921 UT
1.35 R_o 1936 UT

M A Y 23, 1 9 8 3 (P=-18.79, B_0=- 1.77, L_0= 166.75)

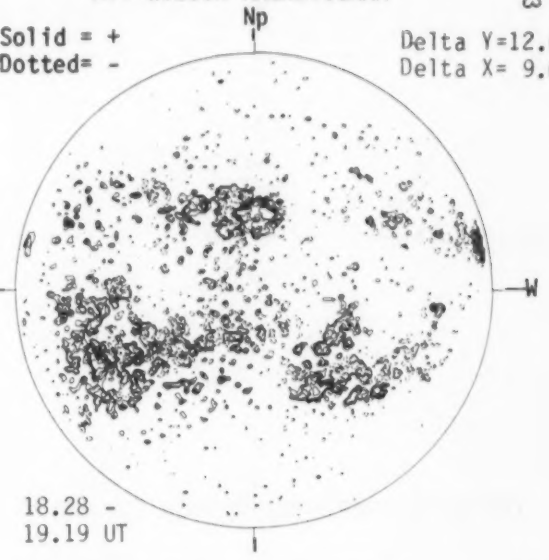
KITT PEAK MAGNETOGRAM



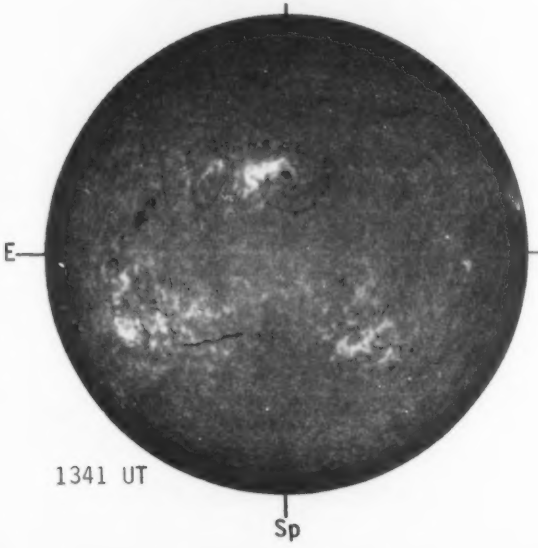
STANFORD MAGNETOGRAM



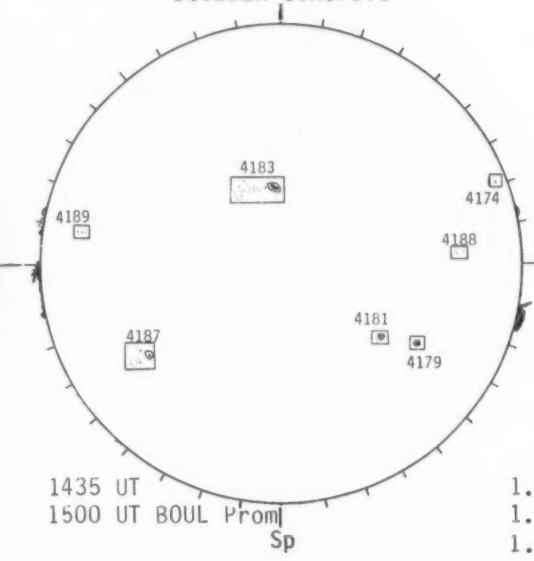
MT. WILSON MAGNETOGRAM



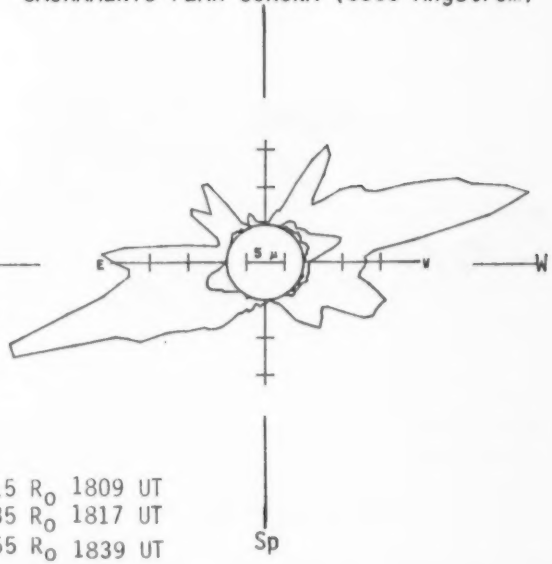
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 24, 1 9 8 3 (P=-18.46, B_0=-1.66, L_0= 153.52)

1500 UT BOUL Prom

Sp

Sp

1.35 R_o 1817 UT
1.55 R_o 1839 UT

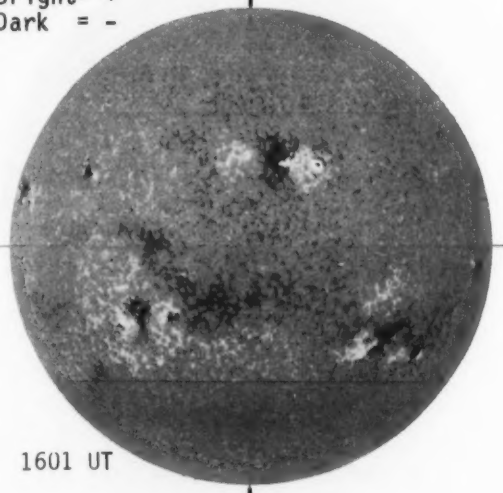
Sp

M A Y 24, 1 9 8 3 (P=-18.46, B_o=-1.66, L_o= 153.52)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



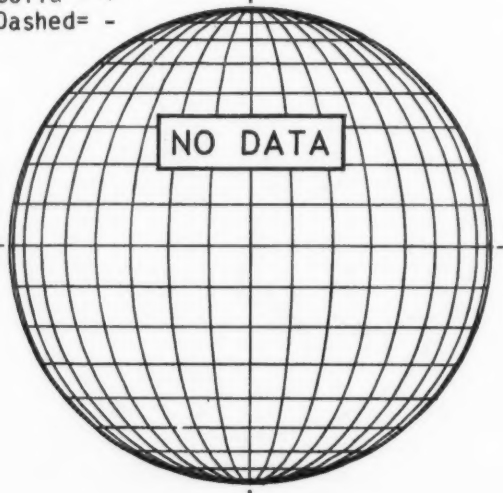
E

1601 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

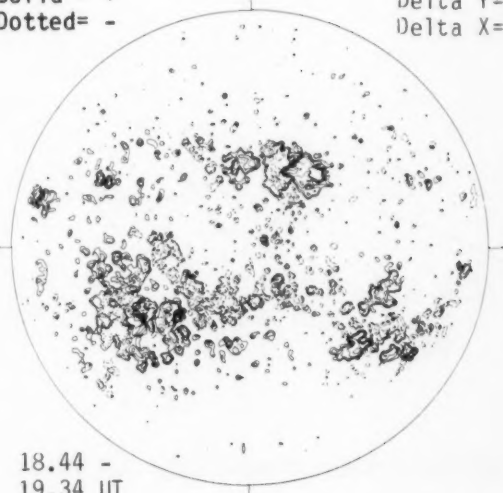


MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

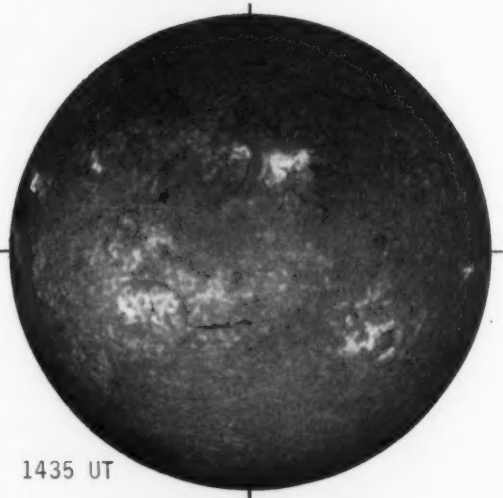
Delta Y=12.6
Delta X= 9.6



W

18.44 -
19.34 UT

SACRAMENTO PEAK H-ALPHA

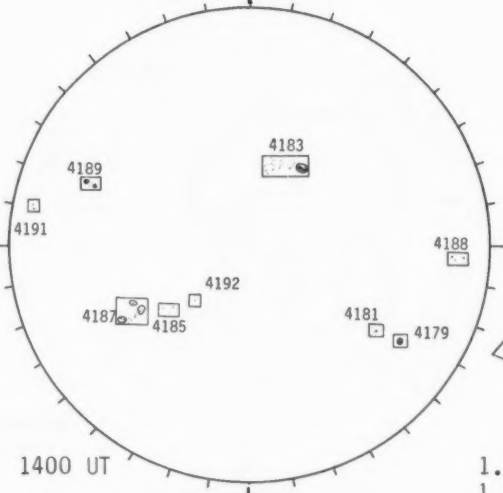


E

1435 UT

Sp

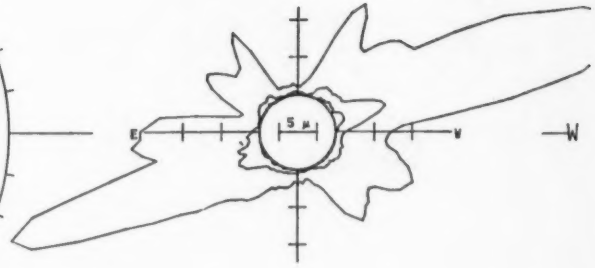
BOULDER SUNSPOTS



1400 UT

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

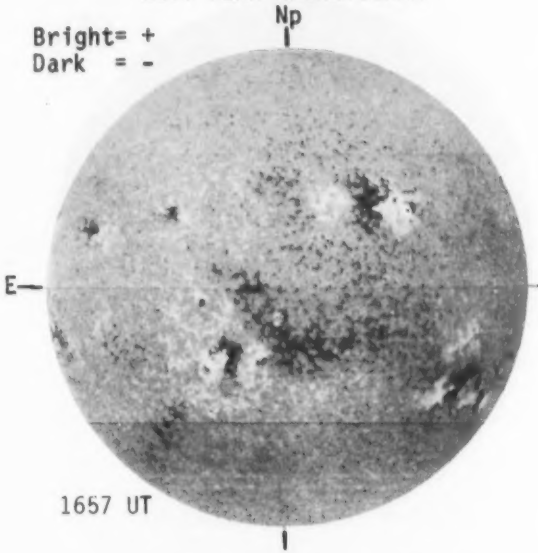
1.15 R_o 1857 UT
1.35 R_o 1905 UT
1.55 R_o 1912 UT

Sp

M A Y 25, 1 9 8 3 (P=-18.13, B_o=-1.54, L_o= 140.28)

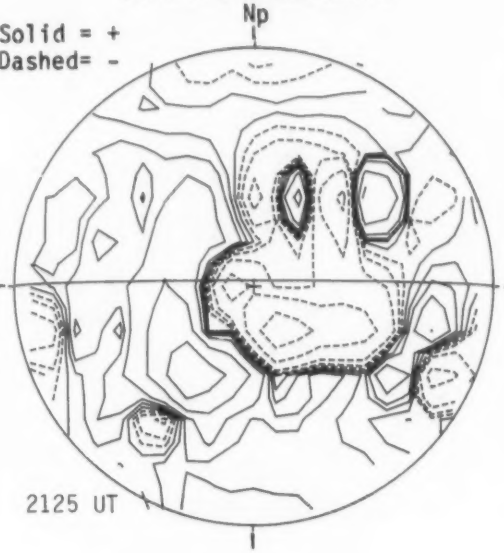
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

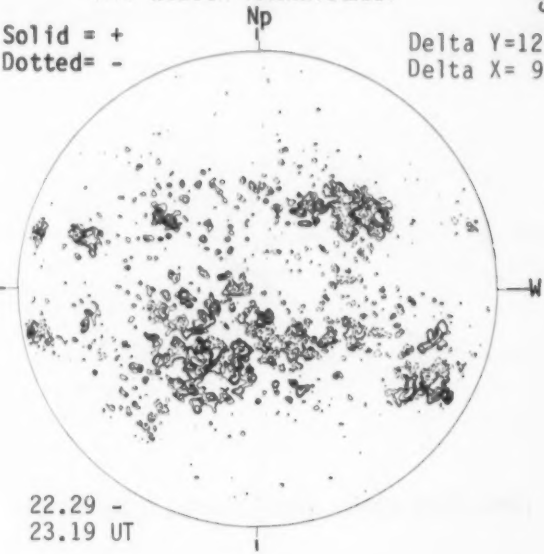
Solid = +
Dashed= -



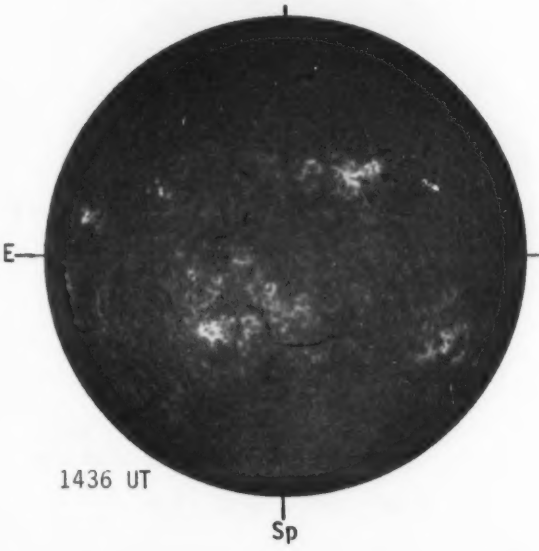
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

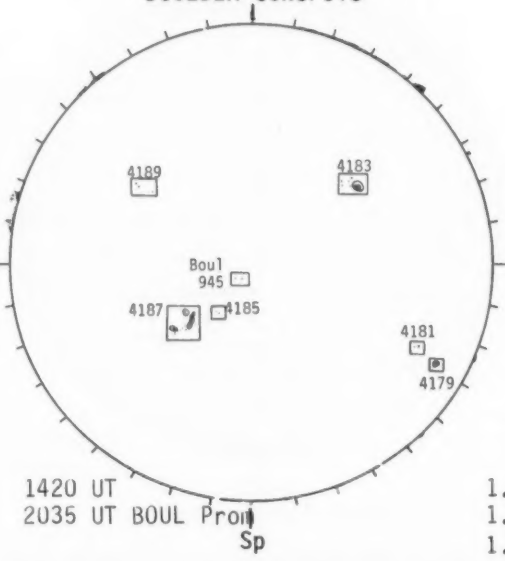
Delta Y=12.7
Delta X= 9.6



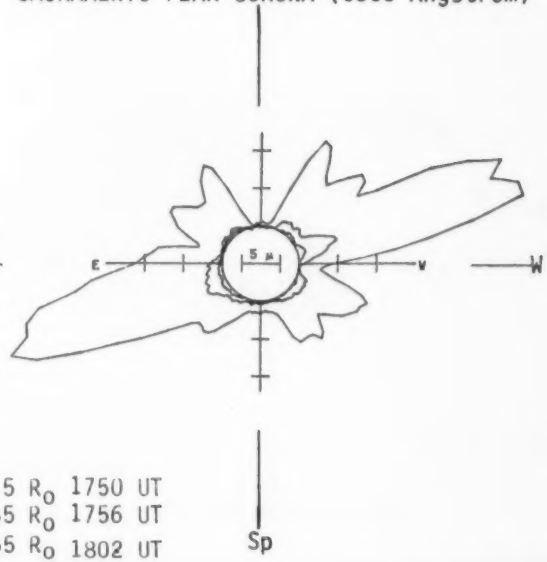
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 26, 1 9 8 3 (P=-17.80, B_o=-1.42, L_o= 127.05)

Sp

2035 UT BOUL Prom

Sp

1.35 R_o 1756 UT

1.55 R_o 1802 UT

Sp

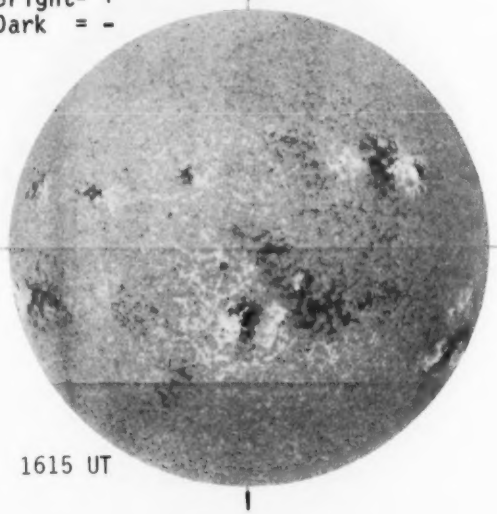
M A Y 26, 1 9 8 3 (P=-17.80, B_o=-1.42, L_o= 127.05)

KITT PEAK MAGNETOGRAM

Np

Bright= +

Dark = -



E

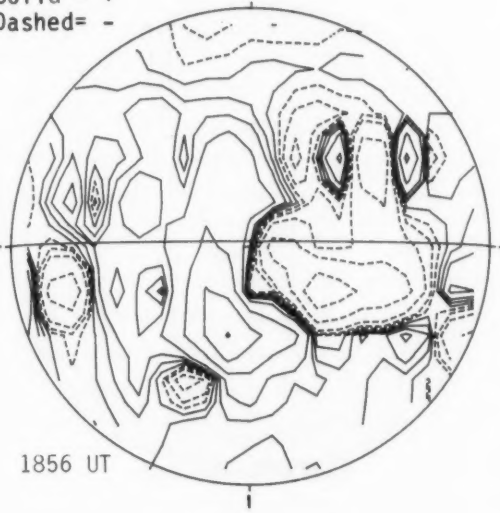
1615 UT

STANFORD MAGNETOGRAM

Np

Solid = +

Dashed= -



1856 UT

MT. WILSON MAGNETOGRAM

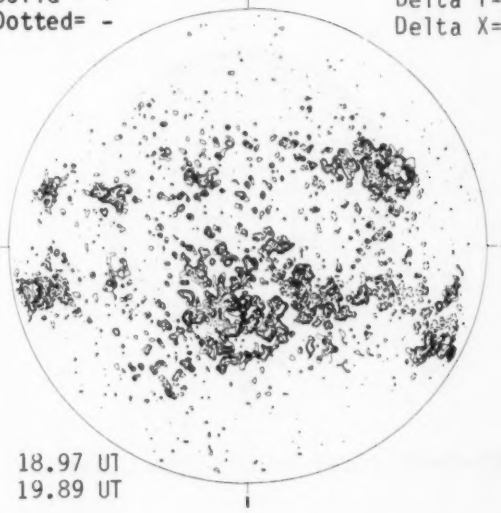
Np

Solid = +

Dotted= -

Delta Y=12.7

Delta X= 9.5

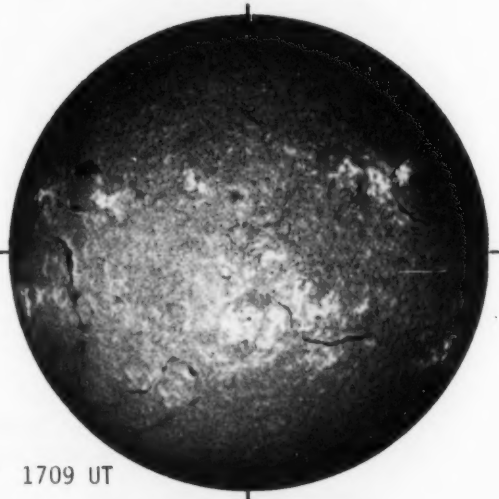


W

18.97 UT

19.89 UT

BOULDER H-ALPHA

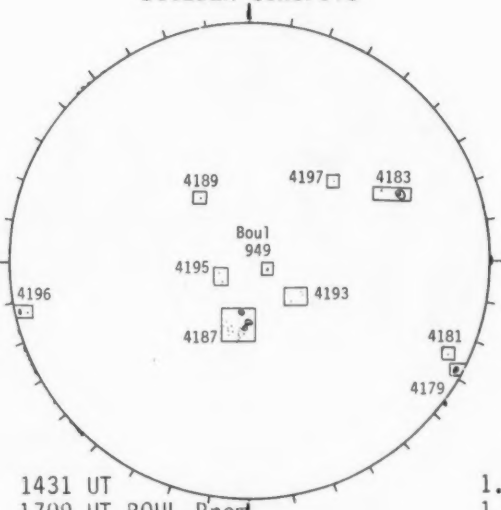


E

1709 UT

Sp

BOULDER SUNSPOTS

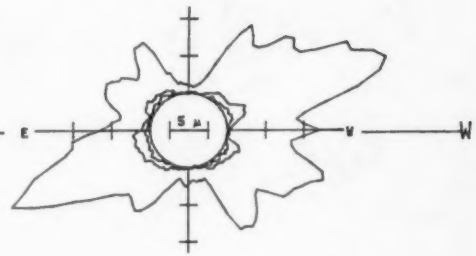


1431 UT

1709 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R_o 2124 UT

1.35 R_o 2130 UT

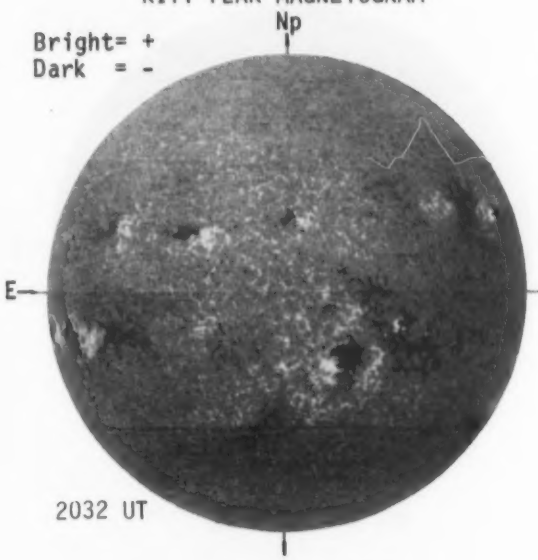
1.55 R_o 2137 UT

Sp

M A Y 27, 1 9 8 3 (P=-17.46, B_o=-1.30, L_o= 113.82)

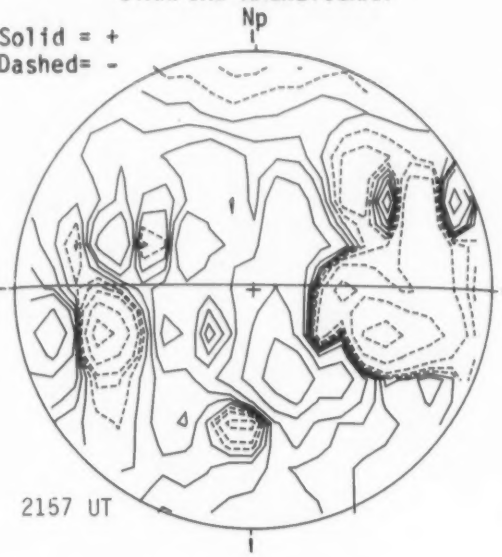
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

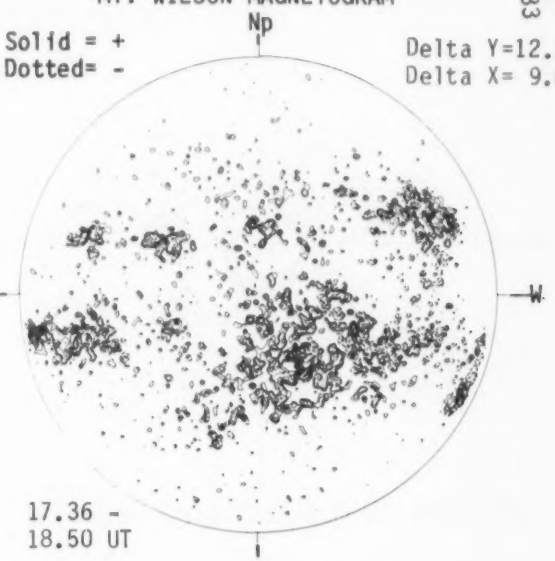
Solid = +
Dashed= -



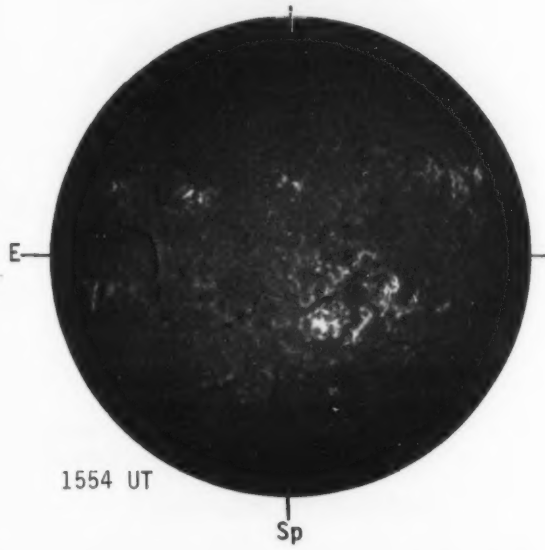
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

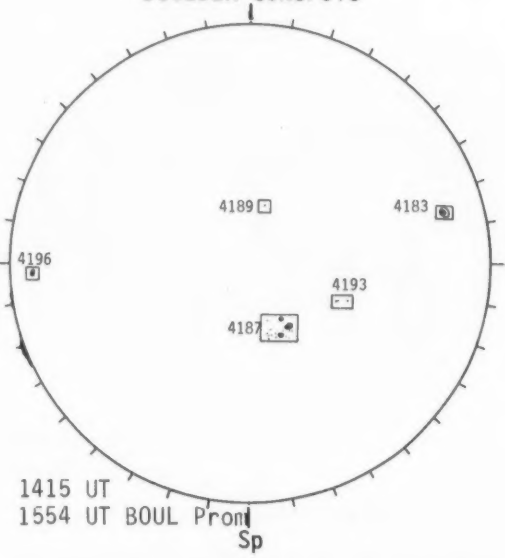
Delta Y=12.7
Delta X= 9.6



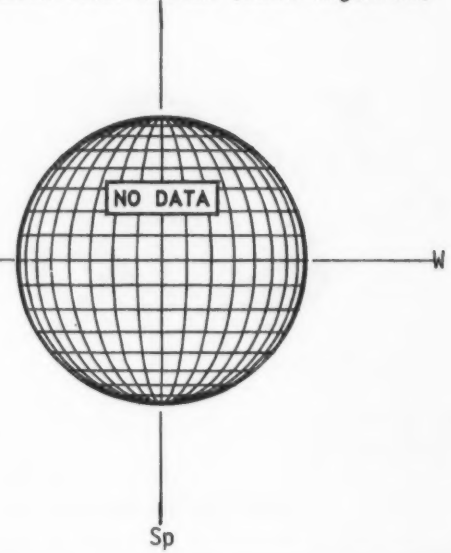
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 28, 1 9 8 3 (P=-17.11, B_o=-1.18, L_o= 100.59)

Sp

1554 UT BOUL Prom

Sp

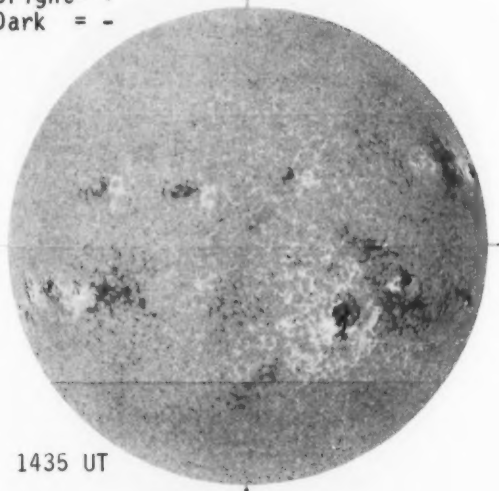
Sp

M A Y 28, 1 9 8 3 (P=-17.11, B_o=-1.18, L_o= 100.59)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

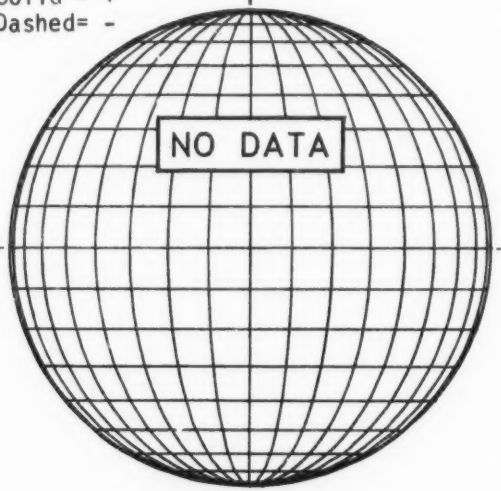
1435 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



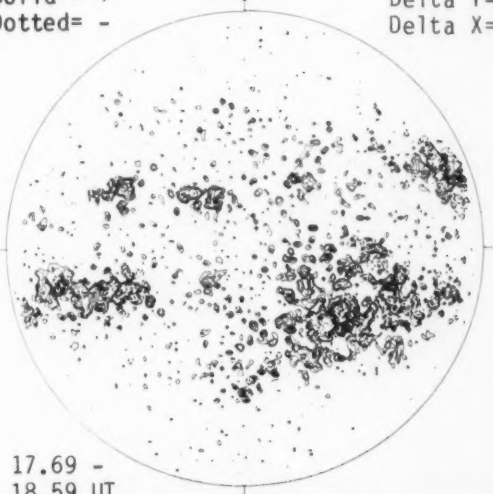
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6



W

17.69 -
18.59 UT

Sp

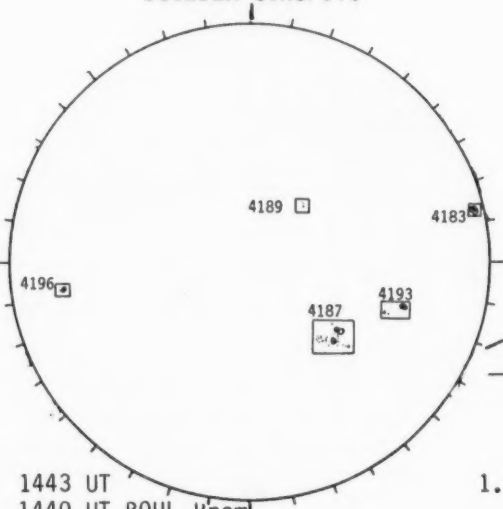
BOULDER H-ALPHA

E

1440 UT

Sp

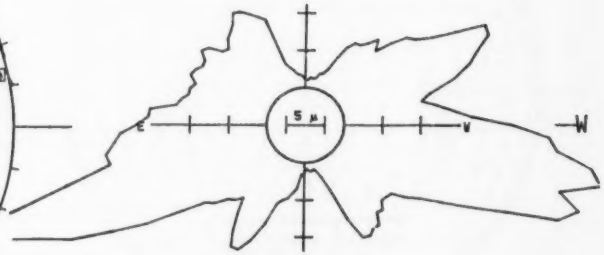
BOULDER SUNSPOTS



1443 UT
1440 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R_o 2329 UT

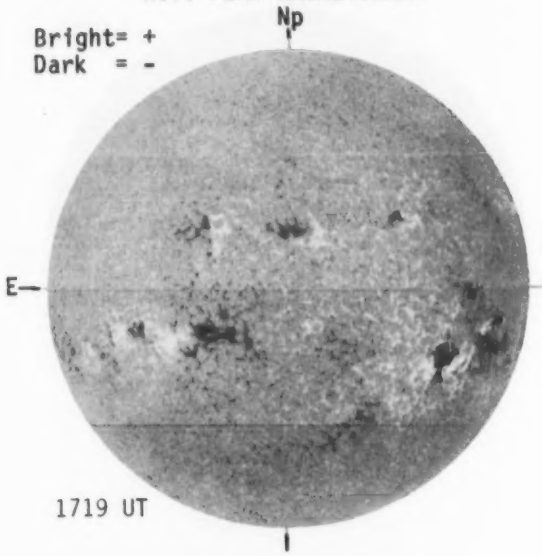
Sp

75
May 83

M A Y 29, 1 9 8 3 (P=-16.76, B_o=-1.06, L_o= 87.36)

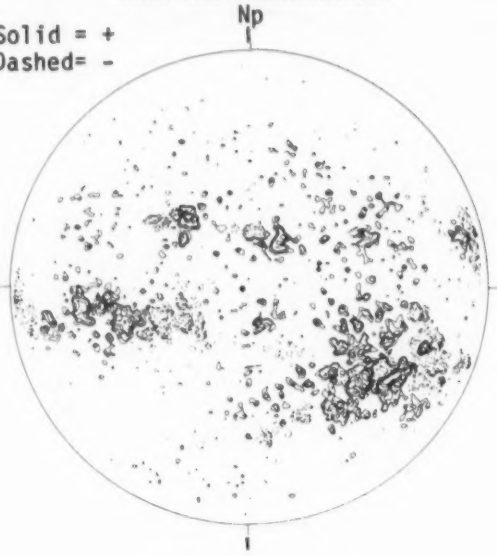
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

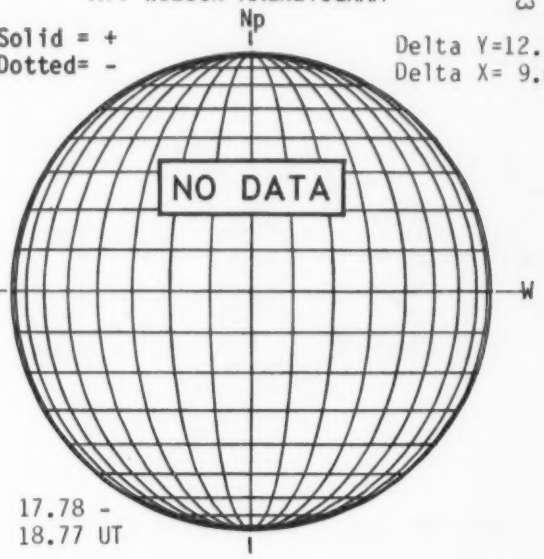
Solid = +
Dashed= -



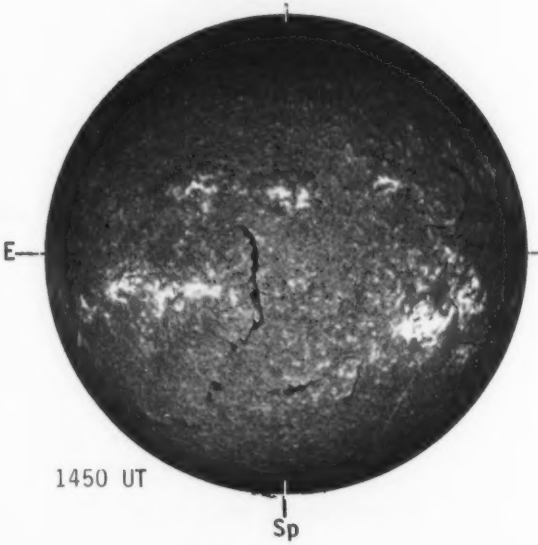
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

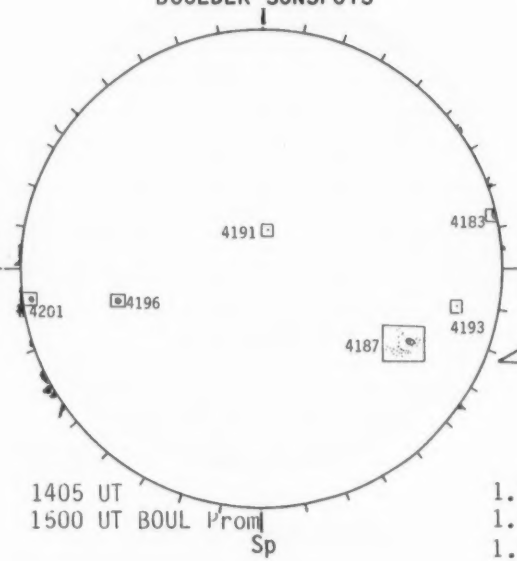
Delta Y=12.7
Delta X= 9.6



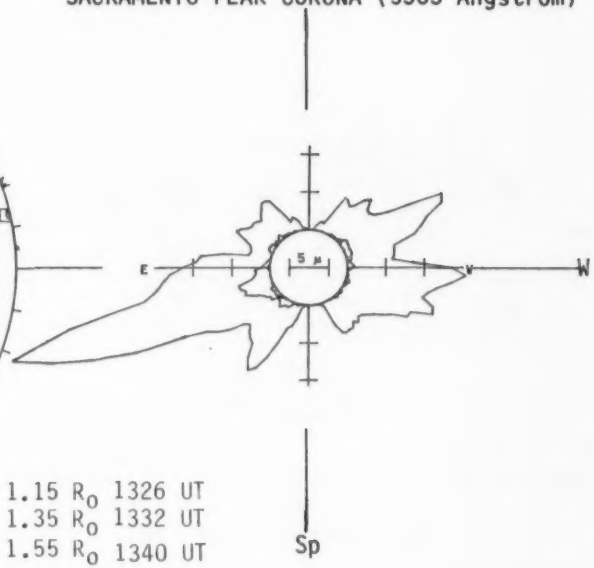
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 30, 1 9 8 3 (P=-16.40, B_o=-0.94, L_o= 74.12)

Sp

1500 UT BOUL Prom

Sp

1.35 R_o 1332 UT
1.55 R_o 1340 UT

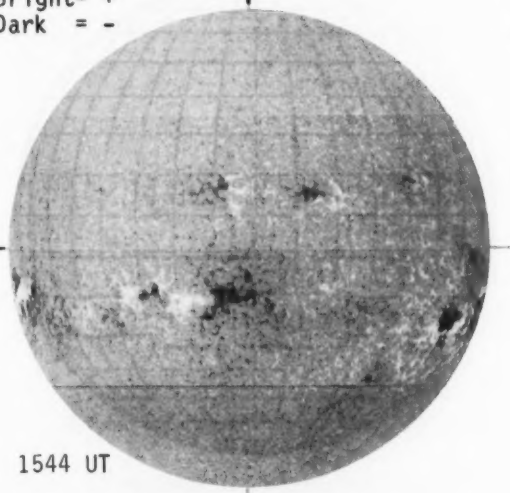
Sp

M A Y 30, 1 9 8 3 (P=-16.40, B_o=-0.94, L_o= 74.12)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

1544 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

NO DATA

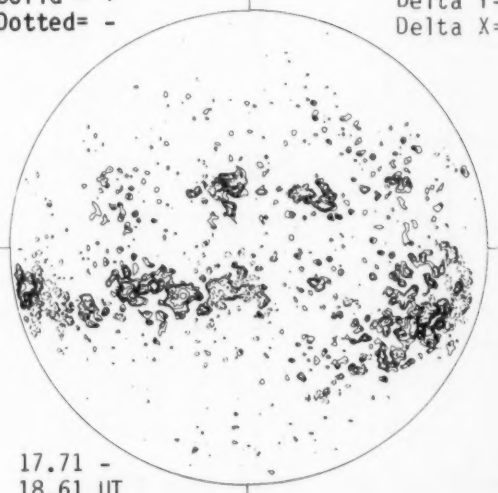
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.5



W

17.71 -
18.61 UT

Sp

SACRAMENTO PEAK H-ALPHA

NO DATA

E

Sp

BOULDER SUNSPOTS

NO DATA

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

NO DATA

W

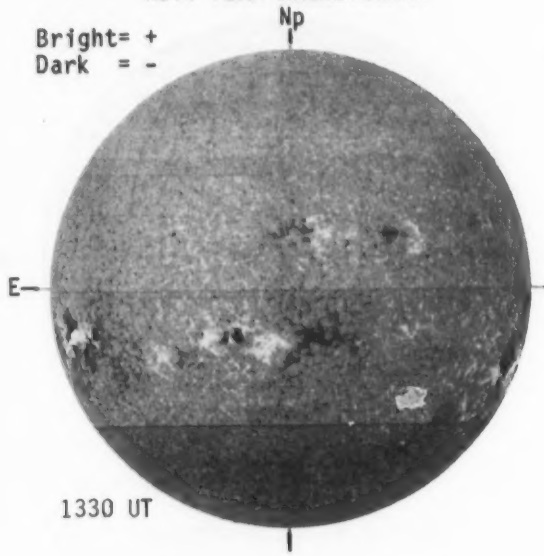
Sp

77
May 83

M A Y 31, 1 9 8 3 (P=-16.04, B_0=-0.82, L_0= 60.89)

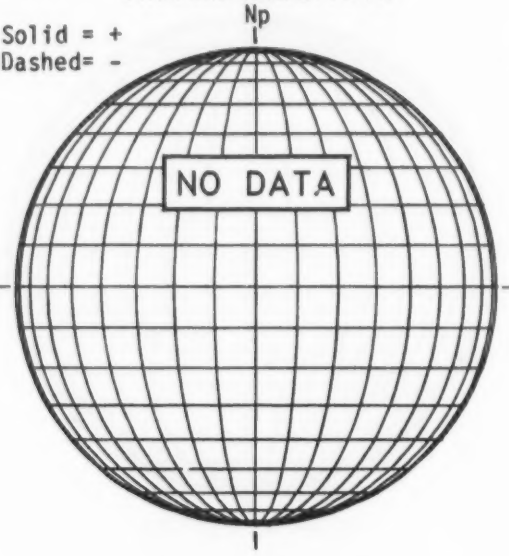
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

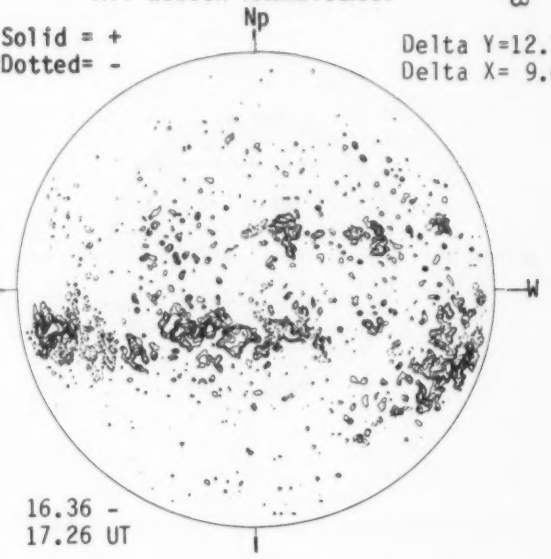
Solid = +
Dashed= -



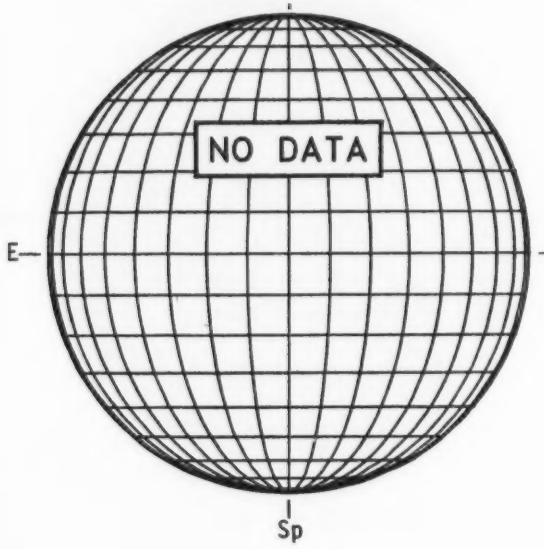
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

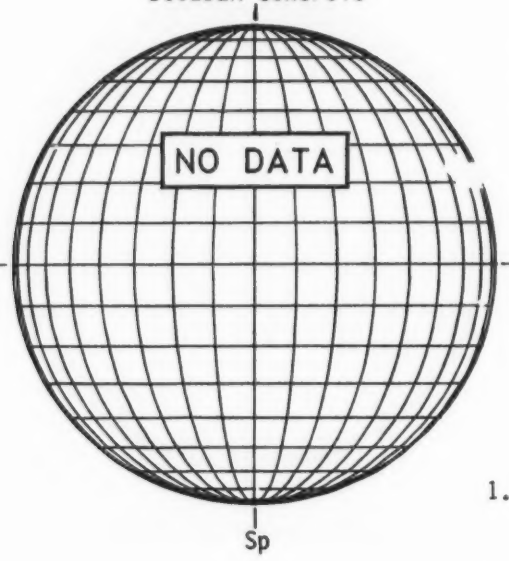
Delta Y=12.7
Delta X= 9.6



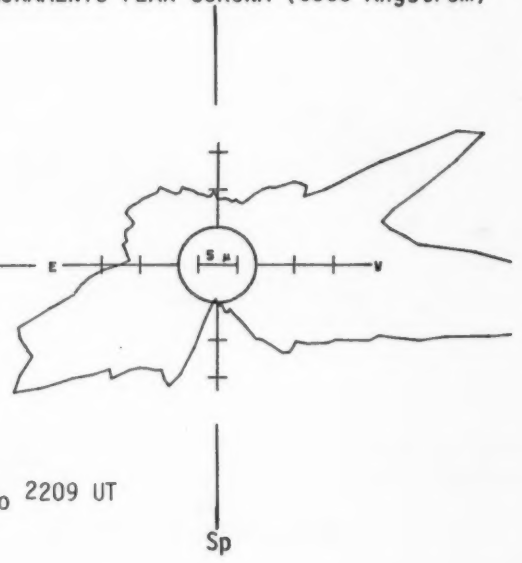
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4161		LEAR	04	26	0130	S14	E67	05	1.1		A	AXX		1	1	2
4161		RAMY	04	27	1145	S14	E46	05	1.0		A	AXX	10	1	1	4
		LEAR	05	08	0024	S17	W79	05	2.0		A	AXX		1		4
0001		HOLL	05	01	1731	S04	E12	05	2.6		A	AXX		1		3
0001		PALE	05	01	1934	S05	E10	05	2.6		A	AXX	10	1	1	4
		PALE	05	01	1934	N09	E14	05	2.9		B	BXO	10	3	3	4
4163		LEAR	04	28	0022	S08	E78	05	3.9		A	HSX	40	2	1	4
4163		MANI	04	28	0247	S08	E77	05	3.9			HSX	130	1	1	3
4163		RAMY	04	28	1340	S08	E70	05	3.8		A	HAX	60	1	1	3
4163		HOLL	04	28	1512	S07	E71	05	4.0		A	HSX	20	1	1	1
4163		BOUL	04	28	1545	S08	E69	05	3.8		A	HRX	20	1	1	3
4163		PALE	04	28	1910	S08	E69	05	4.0		A	HRX	20	1	1	3
4163		MANI	04	28	2330	S08	E67	05	4.0			HRX	70	3	1	3
4163		LEAR	04	29	0118	S07	E64	05	3.9		A	HSX	40	2	1	4
4163		ATHN	04	29	0900	S09	E60	05	3.9		A	HRX	20	1	1	2
4163		RAMY	04	29	1259	S08	E58	05	3.9		B	BXO	20	2	2	4
4163		BOUL	04	29	1625	S07	E56	05	3.9		A	HSX	30	1	1	3
4163		PALE	04	29	1810	S08	E56	05	4.0		A	HSX	20	1	1	3
4163		MANI	04	29	2342	S08	E53	05	4.0			HRX	30	1	1	3
4163		LEAR	04	30	0056	S08	E52	05	3.9		A	HSX	20	1	1	3
4163		ATHN	04	30	0700	S09	E47	05	3.8			HRX	60	1	1	2
4163		HOLL	04	30	1530	S08	E43	05	3.9		A	AXX	10	1	1	3
4163		BOUL	04	30	1530	S09	E42	05	3.8		A	AXX	10	1	1	2
4163		PALE	04	30	1811	S06	E42	05	3.9		A	AXX	10	1	1	2
4163		MANI	04	30	2252	S08	E39	05	3.9			AXX	10	2	1	3
4163		LEAR	05	01	0026	S08	E38	05	3.9		A	HRX	20	1	1	3
4163		ATHN	05	01	0615	S07	E34	05	3.8			AXX	10	1	1	3
4163		LEAR	05	02	0016	S09	E27	05	4.0		A	AXX		1		3
4163		MANI	05	02	0412	S09	E27	05	4.2			AXX	10	1		3
4163	23645	MWIL	05	02	1430	S08	E19	05	4.0	3	(AP)					
4163		HOLL	05	02	1436	S06	E18	05	4.0		A	AXX		1		2
4163		PALE	05	02	1735	S07	E17	05	4.0		A	AXX		1		3
4163		MANI	05	02	2303	S07	E15	05	4.1			AXX	20	3		3
4163		LEAR	05	03	0023	S08	E13	05	4.0		A	AXX		2	2	3
4163		BOUL	05	03	1430	S08	E08	05	4.2		B	BXO	10	2	1	3
4163	23645	MWIL	05	03	1530	S07	E05	05	4.0	2	(AP)					
4163		HOLL	05	05	1403	S09	W22	05	3.9		A	AXX		1	1	4
4163		PALE	05	05	1900	S07	W22	05	4.1		A	AXX	10	3	2	3
4163		MANI	05	05	2256	S08	W26	05	4.0			BXO	20	5	5	2
4167		BOUL	05	03	1430	N12	E10	05	4.4		B	BXO	20	5	3	3
4167		HOLL	05	03	1447	N13	E11	05	4.4		B	BXO	20	5	3	3
4167	23647	MWIL	05	03	1530	N13	E10	05	4.4	3	(BP)					
4167		PALE	05	03	1910	N13	E08	05	4.4		B	BXO	20	3	3	3
4167		LEAR	05	04	0016	N14	E06	05	4.5		B	DRO	10	2	4	3
4167		MANI	05	04	0202	N14	E04	05	4.4			CRO	20	2	5	2
4167		ATHN	05	04	0645	N11	E03	05	4.5			CAO	20	2	4	3
4167		RAMY	05	04	1145	N13	W01	05	4.4		B	CAO	20	8	5	4
4167	23647	MWIL	05	04	1530	N13	W03	05	4.4	4	(B)					
4167		LEAR	05	05	0200	N13	W09	05	4.4		B	CRO	20	9	6	3
4167		MANI	05	05	0201	N13	W09	05	4.4		B	CSO	30	9	5	2
4167		ATHN	05	05	0715	N11	W10	05	4.5			BXO	60	9	5	4
4167		RAMY	05	05	1207	N13	W14	05	4.4		B	CRO	60	8	5	3
4167		HOLL	05	05	1403	N14	W17	05	4.3		B	BXO	30	6	5	4
4167		BOUL	05	05	1705	N14	W16	05	4.5		B	BXO	30	5	5	2
4167		PALE	05	05	1900	N13	W19	05	4.4		B	BXO	30	5	6	3
4167		MANI	05	05	2256	N14	W22	05	4.3			CSO	60	7	5	2
4167		ATHN	05	06	0900	N13	W23	05	4.6			AXX	10	1	7	3
4167		RAMY	05	06	1352	N12	W29	05	4.4		B	CSO	30	5	7	3
4167		HOLL	05	06	1535	N13	W32	05	4.2		B	BXO	30	6	6	3
4167	23647	MWIL	05	06	1545	N12	W30	05	4.4	4	(BF)					
4167		BOUL	05	06	1640	N13	W29	05	4.5		B	CSO	20	7	8	2
4167		PALE	05	06	2038	N11	W34	05	4.3		B	BXO	20	4	5	4
4167		LEAR	05	07	0030	N13	W35	05	4.4		B	CRO	20	3	5	3
4167		ATHN	05	07	0900	N14	W36	05	4.7		A	AXX	20	1	1	3
4167		RAMY	05	07	1145	N13	W41	05	4.4		B	CAO	30	5	5	3
4167		HOLL	05	07	1428	N12	W43	05	4.4		B	BXO	20	6	6	3

REGIONS OF SUNSPOT ACTIVITY
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MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4167		BOUL	05	07	1515	N13	W41	05	4.5		B	BXO	30	4	5	3
4167	23647	MWIL	05	07	1515	N13	W43	05	4.4	3	(B)					
4167		LEAR	05	08	0024	N13	W49	05	4.3		B	DRO	40	9	5	4
4167		MANI	05	08	0115	N12	W50	05	4.3			CSO	90	11	5	2
4167		ATHN	05	08	0900	N11	W50	05	4.6			DHO	170	9	7	3
4167		RAMY	05	08	1247	N13	W56	05	4.3		B	CAO	80	12	6	4
4167		HOLL	05	08	1416	N13	W57	05	4.3		BG	DRO	120	11	6	3
4167		BOUL	05	08	1540	N13	W57	05	4.3		BG	DSI	90	6	9	1
4167	23647	MWIL	05	08	1545	N12	W58	05	4.3	4	(BA)					
4167		PALE	05	08	1720	N13	W59	05	4.3		BG	DAO	100	6	6	3
4167		LEAR	05	09	0100	N13	W64	05	4.2		BG	DAO	40	9	6	3
4167		MANI	05	09	0138	N13	W64	05	4.2			DAO	170	8	6	3
4167		RAMY	05	09	1156	N13	W67	05	4.4		BG	DAO	210	8	6	3
4167		HOLL	05	09	1507	N13	W71	05	4.3		B	DSO	80	5	6	2
4167		BOUL	05	09	1550	N13	W70	05	4.4		B	DRO	80	4	7	2
4167	23647	MWIL	05	09	1600	N13	W71	05	4.3	3	(B)					
4167		PALE	05	09	1710	N13	W73	05	4.2		B	DAO	80	4	7	3
4167		MANI	05	10	0310	N13	W78	05	4.2			CRO	80	4	3	2
4167		RAMY	05	10	1125	N14	W80	05	4.4		B	DAO	130	5	7	3
4165		MANI	04	28	2330	S09	E82	05	5.1			CRO	70	3	3	3
4165		MANI	04	28	2330	S11	E87	05	5.5			HSX	280	1	2	3
4165		LEAR	04	29	0118	S09	E80	05	5.1		B	CSO	160	4	9	4
4165		ATHN	04	29	0900	S12	E81	05	5.5		A	HHX	100	1	3	2
4165		RAMY	04	29	1259	S09	E74	05	5.1		B	CKO	140	9	10	4
4165		BOUL	04	29	1625	S09	E73	05	5.2		B	EAO	300	10	11	3
4165		PALE	04	29	1810	S09	E73	05	5.2		B	CAO	200	10	11	3
4165		MANI	04	29	2342	S08	E70	05	5.2			DSO	370	8	10	3
4165		LEAR	04	30	0056	S08	E69	05	5.2		B	DAO	150	7	10	3
4165		ATHN	04	30	0700	S10	E66	05	5.3			DSO	280	2	9	2
4165		BOUL	04	30	1530	S09	E60	05	5.2		B	EKO	490	12	14	2
4165		HOLL	04	30	1530	S09	E61	05	5.2		B	EAO	310	5	11	3
4165		PALE	04	30	1811	S09	E60	05	5.3		B	EAO	280	15	11	2
4165		MANI	04	30	2252	S09	E57	05	5.2			DAO	600	18	10	3
4165		LEAR	05	01	0026	S08	E56	05	5.2		B	DAO	270	22	10	3
4165		ATHN	05	01	0615	S08	E52	05	5.2			EHO	200	7	11	3
4165		BOUL	05	01	1455	S10	E46	05	5.1		B	EHO	240	18	11	2
4165		HOLL	05	01	1731	S09	E46	05	5.2		B	ESO	330	24	11	3
4165		LEAR	05	02	0016	S09	E42	05	5.2		B	EAO	320	32	13	3
4165		MANI	05	02	0412	S09	E42	05	5.3			EAO	500	33	13	3
4165		BOUL	05	02	1430	S08	E33	05	5.1		B	ESO	140	23	12	2
4165	23646	MWIL	05	02	1430	S10	E36	05	5.3	5	(B)					
4165		HOLL	05	02	1436	S09	E35	05	5.2		B	ESO	210	15	12	2
4165		PALE	05	02	1735	S10	E33	05	5.2		B	EAO	140	12	12	3
4165		MANI	05	02	2303	S09	E32	05	5.4			ESI	470	21	13	3
4165		LEAR	05	03	0023	S09	E29	05	5.2		B	ESO	210	23	12	3
4165		ATHN	05	03	0630	S10	E25	05	5.2			ESO	200	9	14	3
4165		BOUL	05	03	1430	S09	E20	05	5.1		B	CAI	130	18	12	3
4165		HOLL	05	03	1447	S09	E22	05	5.3		B	CAI	170	17	12	3
4165	23646	MWIL	05	03	1530	S10	E21	05	5.2	5	(BA)					
4165		PALE	05	03	1910	S10	E18	05	5.2		B	DAI	160	27	12	3
4165		LEAR	05	04	0016	S10	E17	05	5.3		B	DAO	140	19	13	3
4165		MANI	05	04	0202	S10	E14	05	5.1			EAI	190	25	14	2
4165		ATHN	05	04	0645	S10	E18	05	5.6			DHO	90	5	3	3
4165		RAMY	05	04	1145	S10	E09	05	5.2		B	EAO	80	24	13	4
4165	23646	MWIL	05	04	1530	S10	E09	05	5.3	5	(BA)					
4165		LEAR	05	05	0200	S10	E02	05	5.2		B	ESO	60	15	13	3
4165		MANI	05	05	0201	S10	E03	05	5.3		B	ESO	110	17	12	2
4165		ATHN	05	05	0715	S11	W01	05	5.2			ERO	80	17	11	4
4165		RAMY	05	05	1207	S10	W04	05	5.2		B	EAO	160	19	14	3
4165		HOLL	05	05	1403	S10	W06	05	5.1		BG	CSO	50	13	14	4
4165		BOUL	05	05	1705	S09	W07	05	5.2		B	CSO	100	15	12	2
4165		PALE	05	05	1900	S10	W08	05	5.2		BG	CSO	60	11	12	3
4165		MANI	05	05	2256	S10	W11	05	5.1			EAO	110	19	14	2
4165		ATHN	05	06	0900	S11	W15	05	5.2			ESO	90	14	13	3
4165		RAMY	05	06	1352	S11	W25	05	4.7		B	DSO	140	15	8	3
4165		HOLL	05	06	1535	S11	W21	05	5.1		BG	CSO	90	17	14	3
4165	23646	MWIL	05	06	1545	S11	W20	05	5.2	4	(B)					
4165		BOUL	05	06	1640	S09	W18	05	5.3		B	ESI	130	21	16	2
4165		PALE	05	06	2038	S10	W23	05	5.1		B	FAO	100	16	16	4
4165		LEAR	05	07	0030	S09	W24	05	5.2		B	EAO	170	33	14	3

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4165		ATHN	05	07	0900	S10	W27	05	5.3		B	BXO	80	8	11	3
4165		RAMY	05	07	1145	S10	W35	05	4.9		BG	DAO	100	21	8	3
4165		HOLL	05	07	1428	S10	W32	05	5.2		B	FAO	90	22	16	3
4165		BOUL	05	07	1515	S09	W33	05	5.2		BGD	ESO	90	16	15	3
4165	23646	MWIL	05	07	1515	S11	W32	05	5.2	3	(B)					
4165		LEAR	05	08	0024	S10	W37	05	5.2		B	ERO	60	18	11	4
4165		ATHN	05	08	0900	S11	W39	05	5.4			EHO	150	6	12	3
4165		RAMY	05	08	1247	S08	W48	05	4.9		B	DAO	90	8	5	4
4165		HOLL	05	08	1416	S09	W46	05	5.1		B	ERO	70	12	12	3
4165		BOUL	05	08	1540	S10	W43	05	5.4		B	CRO	30	7	11	1
4165	23646	MWIL	05	08	1545	S10	W45	05	5.3	4	(BF)					
4165		PALE	05	08	1720	S09	W47	05	5.2		B	ERO	50	11	11	3
4165		LEAR	05	09	0100	S10	W52	05	5.1		B	ESO	60	9	12	3
4165		MANI	05	09	0138	S09	W52	05	5.2			ESO	150	9	12	3
4165		RAMY	05	09	1156	S09	W60	05	5.0		B	DAO	80	8	4	3
4165		HOLL	05	09	1507	S09	W59	05	5.2		B	ESO	120	6	12	2
4165		BOUL	05	09	1550	S11	W65	05	4.8		B	CRO	40	3	6	2
4165	23646	MWIL	05	09	1600	S10	W65	05	4.8	4	(AP)					
4165		PALE	05	09	1710	S10	W65	05	4.8		B	BXO	40	4	4	3
4165		LEAR	05	10	0058	S10	W68	05	4.9		B	DRO	40	10	9	3
4165		MANI	05	10	0310	S10	W70	05	4.9			CRO	30	4	4	2
4165		RAMY	05	10	1125	S08	W76	05	4.8		A	HAX	60	1	1	3
4165		BOUL	05	10	1410	S09	W79	05	4.7		A	AXX		1	1	4
4165		HOLL	05	10	1538	S09	W79	05	4.7		A	AXX		1		4
4165		PALE	05	10	1815	S09	W79	05	4.8		B	BXO	10	2	3	3
4165		MANI	05	11	0224	S10	W84	05	4.8			AXX	70	1	1	3
4170		RAMY	05	06	1352	S11	W15	05	5.4		B	CSI	60	15	6	3
4170		RAMY	05	07	1145	S10	W26	05	5.5		B	DAO	30	6	3	3
4170		RAMY	05	08	1247	S10	W35	05	5.9		B	DAO	30	7	8	4
4170		RAMY	05	09	1156	S08	W51	05	5.7		A	AXX	20	2	1	3
0002		HOLL	05	05	1403	S12	E05	05	6.0		B	BXO	10	2	2	4
0002		MANI	05	05	2256	S11	E01	05	6.0			BXO	10	2	2	2
4168	23650	MWIL	05	04	1530	S14	E27	05	6.7	4	(B)					
4168		LEAR	05	05	0200	S14	E21	05	6.7		B	CAO	40	9	5	3
4168		MANI	05	05	0201	S14	E22	05	6.7		B	CSO	70	10	5	2
4168		ATHN	05	05	0715	S15	E17	05	6.6			DSO	50	12	6	4
4168		RAMY	05	05	1207	S15	E16	05	6.7		B	DAO	120	13	7	3
4168		HOLL	05	05	1403	S14	E14	05	6.6		B	CAO	80	9	6	4
4168		BOUL	05	05	1705	S13	E13	05	6.7		B	CSO	60	7	6	2
4168		MANI	05	05	2256	S13	E09	05	6.6			CSO	120	11	6	2
4168		ATHN	05	06	0900	S17	E03	05	6.6			CAO	70	8	1	3
4168		RAMY	05	06	1352	S15	W00	05	6.6		B	DAI	160	27	7	3
4168		HOLL	05	06	1535	S14	W01	05	6.6		B	CAO	100	14	8	3
4168	23650	MWIL	05	06	1545	S15	W01	05	6.6	4	(B)					
4168		BOUL	05	06	1640	S14	W01	05	6.6		B	DSI	100	17	7	2
4168		PALE	05	06	2038	S15	W04	05	6.6		B	DSO	110	17	8	4
4168		LEAR	05	07	0030	S15	W06	05	6.6		B	DSO	120	17	8	3
4168		ATHN	05	07	0900	S15	W09	05	6.7		B	DSO	110	10	8	3
4168		RAMY	05	07	1145	S15	W12	05	6.6		B	DAO	100	23	9	3
4168		HOLL	05	07	1428	S14	W14	05	6.5		B	ESO	110	14	11	3
4168		BOUL	05	07	1515	S14	W13	05	6.7		B	CAO	70	19	10	3
4168	23650	MWIL	05	07	1515	S15	W14	05	6.6	5	(BP)					
4168		LEAR	05	08	0024	S13	W20	05	6.5		B	CSO	90	13	8	4
4168		MANI	05	08	0115	S14	W20	05	6.5			CSO	120	14	10	2
4168		ATHN	05	08	0900	S14	W22	05	6.7			EHO	140	9	12	3
4168		RAMY	05	08	1247	S13	W26	05	6.6		B	CAO	50	11	11	4
4168		HOLL	05	08	1416	S14	W28	05	6.5		B	DSO	70	9	11	3
4168		BOUL	05	08	1540	S15	W27	05	6.6		B	CSO	40	6	9	1
4168	23650	MWIL	05	08	1545	S15	W29	05	6.5	4	(BP)					
4168		PALE	05	08	1720	S13	W30	05	6.5		B	CSO	60	11	10	3
4168		LEAR	05	09	0100	S13	W35	05	6.4		B	CSO	70	11	10	3
4168		MANI	05	09	0138	S13	W35	05	6.4			CSO	210	11	10	3
4168		RAMY	05	09	1156	S13	W42	05	6.3		B	DAO	60	10	5	3
4168		HOLL	05	09	1507	S15	W46	05	6.1		B	CSO	50	5	4	2
4168		BOUL	05	09	1550	S15	W46	05	6.2		B	CSO	50	2	3	2
4168	23650	MWIL	05	09	1600	S15	W46	05	6.2	4	(AP)					
4168		PALE	05	09	1710	S14	W45	05	6.3		B	CSO	40	4	6	3
4168		LEAR	05	10	0058	S15	W50	05	6.3		B	DSO	80	8	5	3

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4168		MANI	05	10	0310	S13	W50	05	6.4			CSO	50	6	7	2
4168		RAMY	05	10	1125	S14	W55	05	6.3		B	DAO	70	3	8	3
4168		BOUL	05	10	1410	S15	W55	05	6.4		B	CRO	30	3	7	4
4168		HOLL	05	10	1538	S14	W58	05	6.3		B	CSO	40	3	7	4
4168	23650	MWIL	05	10	1545	S14	W58	05	6.3	4	(AP)					
4168		PALE	05	10	1815	S16	W58	05	6.4		B	CRO	40	3	8	3
4168		LEAR	05	11	0200	S15	W65	05	6.2		B	CAO	50	4	7	3
4168		MANI	05	11	0224	S13	W63	05	6.3			CRO	50	5	7	3
4168		HOLL	05	11	1512	S16	W71	05	6.2		B	HXO	10	2	3	4
4168	23650	MWIL	05	11	1545	S15	W74	05	6.0	3	(AP)					
4168		RAMY	05	11	1620	S15	W70	05	6.4		B	CRO	30	4	3	4
4168		PALE	05	11	1915	S15	W73	05	6.3		A	AXX	10	1	1	3
4168		MANI	05	12	0053	S15	W78	05	6.1			AXX	30	2	1	3
4173		RAMY	05	07	1145	S11	E23	05	9.2		B	BXO	10	6	2	3
4173		HOLL	05	07	1428	S11	E22	05	9.3		B	BXO	20	5	3	3
4173		BOUL	05	07	1515	S12	E20	05	9.1		B	BXO	20	3	2	3
4173	23653	MWIL	05	07	1515	S12	E21	05	9.2	4	(AP)					
4173		LEAR	05	08	0024	S10	E16	05	9.2		B	CRO	30	10	4	4
4173		MANI	05	08	0115	S10	E16	05	9.3			CRO	50	12	5	2
4173		ATHN	05	08	0900	S12	E14	05	9.4			DHO	100	4	5	3
4173		RAMY	05	08	1247	S10	E09	05	9.2		B	DAO	40	14	6	4
4173		HOLL	05	08	1416	S10	E08	05	9.2		B	DRO	50	15	6	3
4173		BOUL	05	08	1540	S11	E08	05	9.3		B	CSI	30	12	5	1
4173	23653	MWIL	05	08	1545	S11	E07	05	9.2	4	(BP)					
4173		PALE	05	08	1720	S11	E07	05	9.2		B	DAO	60	14	6	3
4173		LEAR	05	09	0100	S11	E02	05	9.2		B	DSO	50	13	7	3
4173		MANI	05	09	0138	S11	E02	05	9.2			DSO	70	15	7	3
4173		RAMY	05	09	1156	S10	W04	05	9.2		B	DAO	80	25	8	3
4173		HOLL	05	09	1507	S11	W06	05	9.2		B	DAO	100	24	8	2
4173		BOUL	05	09	1550	S10	W05	05	9.3		B	CRI	40	11	8	2
4173	23653	MWIL	05	09	1600	S11	W05	05	9.3	4	(B)					
4173		PALE	05	09	1710	S11	W07	05	9.2		B	DAO	100	18	10	3
4173		LEAR	05	10	0058	S11	W11	05	9.2		BG	DAI	170	36	9	3
4173		MANI	05	10	0310	S10	W11	05	9.3			DAO	210	32	10	2
4173		RAMY	05	10	1125	S11	W16	05	9.3		BG	EAO	250	47	11	3
4173		BOUL	05	10	1410	S10	W17	05	9.3		BG	EKI	330	60	12	4
4173		HOLL	05	10	1538	S11	W18	05	9.3		BG	EAI	480	38	11	4
4173	23653	MWIL	05	10	1545	S11	W19	05	9.2	4	(B)					
4173		PALE	05	10	1815	S11	W19	05	9.3		BG	EKI	420	53	11	3
4173		LEAR	05	11	0200	S12	W25	05	9.2		BGD	EKI	780	45	14	3
4173		MANI	05	11	0224	S10	W24	05	9.3			EKI	1390	48	14	3
4173		HOLL	05	11	1512	S12	W31	05	9.3		BGD	EKC	1520	36	14	4
4173	23653	MWIL	05	11	1545	S11	W30	05	9.4	5	(D)					
4173		RAMY	05	11	1620	S10	W31	05	9.3		BGD	EKI	1440	48	13	4
4173		PALE	05	11	1915	S11	W32	05	9.4		BGD	EKI	1320	35	13	3
4173		MANI	05	12	0053	S11	W36	05	9.3			EKC	2080	38	15	3
4173		LEAR	05	12	0110	S12	W36	05	9.3		BGD	EKI	1670	45	14	3
4173		ATHN	05	12	0700	S10	W38	05	9.4			FKC	1770	18	16	2
4173		BOUL	05	12	1505	S10	W43	05	9.4		BGD	EKI	1300	12	14	1
4173		HOLL	05	12	1550	S12	W45	05	9.3		BD	FKC	1600	38	16	4
4173	23653	MWIL	05	12	1600	S12	W45	05	9.3	5	(D)					
4173		LEAR	05	13	0128	S11	W46	05	9.6		BGD	FHI	1580	24	16	2
4173		ATHN	05	13	0700	S12	W49	05	9.6		BGD	FKI	1720	20	16	3
4173		RAMY	05	13	1315	S10	W58	05	9.2		BGD	FKI	1730	45	16	4
4173		HOLL	05	13	1426	S12	W58	05	9.2		BGD	FKI	1400	30	17	2
4173	23653	MWIL	05	13	1515	S12	W58	05	9.3	5	(D)					
4173		PALE	05	13	1953	S11	W60	05	9.3		BGD	FKI	1240	31	16	3
4173		LEAR	05	14	0156	S11	W63	05	9.3		BGD	FKI	1720	29	16	3
4173		MANI	05	14	0219	S11	W65	05	9.2			FKI	3430	30	16	3
4173		ATHN	05	14	0700	S10	W65	05	9.4			FKI	1210	13	16	3
4173		HOLL	05	14	1417	S12	W72	05	9.2		BG	FKI	1200	20	17	3
4173	23653	MWIL	05	14	1430	S12	W72	05	9.2	5	(D)					
4173		PALE	05	14	1750	S11	W73	05	9.2		BGD	FKI	1380	13	16	3
4173		MANI	05	14	2320	S11	W75	05	9.3			FKI	3700	13	16	3
4173		ATHN	05	15	0630	S12	W75	05	9.6		BG	EHO	570	5	13	3
4173		HOLL	05	15	1419	S12	W85	05	9.2		BG	EKI	740	9	12	3
4173	23653	MWIL	05	15	1500	S11	W80	05	9.6	4	(BP)					
4173		BOUL	05	15	1535	S11	W80	05	9.6		B	DHO	280	4	5	2
4173		PALE	05	15	1705	S11	W86	05	9.2		BGD	EKI	780	4	12	3
4173		LEAR	05	16	0110	S10	W88	05	9.4		A	HAX	60	1	2	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4169	23648	MWIL	05	03	1530	S15 E76	05	9.4	3	(AP)					
4169	23648	MWIL	05	04	1530	S15 E62	05	9.3	3	(B)					
4169		LEAR	05	05	0200	S16 E56	05	9.3		B	BXO	10	4	3	3
4169		ATHN	05	05	0715	S19 E60	05	9.9			BXO	20	2	3	4
4169		HOLL	05	05	1403	S16 E51	05	9.5		A	AXX	10	1		4
4175		HOLL	05	09	1507	S08 E04	05	9.9		A	AXX		1		2
4175		LEAR	05	10	0058	S09 W01	05	10.0		B	BXO		2	3	3
4175		HOLL	05	11	1512	S08 W22	05	10.0		B	BXO	20	4	3	4
4175		RAMY	05	11	1620	S08 W23	05	10.0		B	CRO	20	6	5	4
4175		PALE	05	11	1915	S09 W23	05	10.1		B	BXO	20	4	3	3
4175		MANI	05	12	0053	S09 W27	05	10.0			CRO	30	6	4	3
4175		LEAR	05	12	0110	S09 W27	05	10.0		B	CSO	30	7	4	3
4175		HOLL	05	12	1550	S09 W38	05	9.8		B	BXO	30	5	3	4
4175		LEAR	05	13	0128	S09 W40	05	10.1		A	AXX	10	1	1	2
4171		ATHN	05	06	0900	S27 E80	05	12.6			AXX	40	1	1	3
4171		RAMY	05	06	1352	S28 E75	05	12.4		B	DKO	380	6	7	3
4171		HOLL	05	06	1535	S31 E78	05	12.8		B	DHO	450	3	7	3
4171	23651	MWIL	05	06	1545	S29 E80	05	12.9	4	(AP)					
4171		BOUL	05	06	1640	S30 E80	05	13.0		B	DSO	360	4	6	2
4171		PALE	05	06	2038	S27 E77	05	12.9		B	DKO	340	6	5	4
4171		LEAR	05	07	0030	S31 E74	05	12.9		B	DAO	390	12	10	3
4171		ATHN	05	07	0900	S31 E72	05	13.1		B	DAO	600	5	4	3
4171		RAMY	05	07	1145	S30 E69	05	12.9		B	DKO	660	15	6	3
4171		HOLL	05	07	1428	S30 E68	05	12.9		BGD	EKC	460	10	11	3
4171		BOUL	05	07	1515	S30 E68	05	13.0		BGD	DKO	500	9	10	3
4171	23651	MWIL	05	07	1515	S31 E70	05	13.2	4	(D)					
4171		LEAR	05	08	0024	S30 E64	05	13.0		BGD	DKI	610	19	9	4
4171		MANI	05	08	0115	S30 E65	05	13.2			DKO	970	18	10	2
4171		ATHN	05	08	0900	S30 E63	05	13.3			EKO	530	6	15	3
4171		RAMY	05	08	1247	S30 E58	05	13.1		BGD	EKO	530	14	11	4
4171		HOLL	05	08	1416	S29 E56	05	13.0		BGD	DKI	500	14	9	3
4171		BOUL	05	08	1540	S31 E55	05	13.0		BGD	DKI	480	7	10	1
4171	23651	MWIL	05	08	1545	S30 E56	05	13.1	5	(D)					
4171		PALE	05	08	1720	S30 E54	05	13.0		BGD	DKI	540	16	9	3
4171		LEAR	05	09	0100	S31 E50	05	13.0		BGD	DKI	630	15	8	3
4171		MANI	05	09	0138	S30 E50	05	13.0			DKI	720	17	8	3
4171		RAMY	05	09	1156	S31 E43	05	12.9		BGD	DKO	460	24	10	3
4171		HOLL	05	09	1507	S30 E42	05	12.9		BD	DKI	470	14	10	2
4171		BOUL	05	09	1550	S30 E43	05	13.0		BGD	DKI	450	10	9	2
4171	23651	MWIL	05	09	1600	S30 E45	05	13.2	5	(D)					
4171		PALE	05	09	1710	S31 E42	05	13.0		BD	DKI	580	15	8	3
4171		LEAR	05	10	0058	S30 E39	05	13.1		BGD	DKI	560	31	8	3
4171		MANI	05	10	0310	S30 E38	05	13.1			DKI	780	21	9	2
4171		RAMY	05	10	1125	S30 E32	05	13.0		BGD	DKO	470	24	10	3
4171		BOUL	05	10	1410	S28 E30	05	12.9		BGD	EKI	410	30	14	4
4171		HOLL	05	10	1538	S30 E32	05	13.2		BD	DKC	400	25	10	4
4171	23651	MWIL	05	10	1545	S31 E30	05	13.0	5	(B)					
4171		PALE	05	10	1815	S30 E29	05	13.0		BGD	EKI	450	27	13	3
4171		LEAR	05	11	0200	S31 E25	05	13.1		BGD	DKI	410	30	10	3
4171		MANI	05	11	0224	S30 E24	05	13.0			EKI	750	32	12	3
4171		HOLL	05	11	1512	S31 E18	05	13.1		BD	DKI	360	14	10	4
4171	23651	MWIL	05	11	1545	S31 E17	05	13.0	5	(BF)					
4171		RAMY	05	11	1620	S29 E16	05	12.9		BGD	EKI	340	35	12	4
4171		PALE	05	11	1915	S31 E16	05	13.1		BGD	DKI	300	16	9	3
4171		MANI	05	12	0053	S31 E12	05	13.0			DKI	520	20	10	3
4171		LEAR	05	12	0110	S31 E12	05	13.0		BGD	EKI	420	23	11	3
4171		ATHN	05	12	0700	S30 E08	05	12.9			DKO	200	5	9	2
4171		BOUL	05	12	1505	S30 E04	05	12.9		B	DAI	190	9	7	1
4171		HOLL	05	12	1550	S32 E05	05	13.1		BG	DHI	310	12	10	4
4171	23651	MWIL	05	12	1600	S31 E04	05	13.0	5	(BY)					
4171		LEAR	05	13	0128	S29 W05	05	12.7		BG	EHO	300	9	14	2
4171		ATHN	05	13	0700	S30 W04	05	13.0		BG	DHO	200	8	8	3
4171		RAMY	05	13	1315	S31 W08	05	12.9		BG	DKO	360	18	8	4
4171		HOLL	05	13	1426	S32 W07	05	13.0		B	DAO	210	13	9	2
4171	23651	MWIL	05	13	1515	S31 W08	05	13.0	5	(BY)					
4171		PALE	05	13	1953	S32 W10	05	13.0		B	DKO	250	15	8	3
4171		LEAR	05	14	0156	S30 W12	05	13.1		B	DHO	270	10	8	3
4171		MANI	05	14	0219	S31 W15	05	12.9			DHO	480	10	8	3
4171		ATHN	05	14	0700	S29 W16	05	13.0			DKO	140	5	7	3

REGIONS OF SUNSPOT ACTIVITY
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MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hemi)	Spot Count	Long. Extent (Deg)	Qual
4171		HOLL	05	14	1417	S29	W21	05	12.9		BG	DSO	210	9	7	3
4171	23651	MWIL	05	14	1430	S31	W20	05	13.0	5	(BY)					
4171		MANI	05	14	2320	S31	W24	05	13.1			DSO	500	11	7	3
4171		ATHN	05	15	0630	S32	W27	05	13.1		BG	DSO	140	4	7	3
4171		HOLL	05	15	1419	S31	W35	05	12.8		BG	CSO	210	10	9	3
4171	23651	MWIL	05	15	1500	S30	W33	05	13.0	5	(BY)					
4171		BOUL	05	15	1535	S29	W32	05	13.1		B	CHO	120	11	5	2
4171		PALE	05	15	1705	S32	W35	05	12.9		BG	CSO	180	9	6	3
4171		LEAR	05	16	0110	S30	W43	05	12.7		B	CHO	180	6	8	3
4171		MANI	05	16	0338	S31	W40	05	13.0			CHO	560	8	5	3
4171		RAMY	05	16	1345	S30	W45	05	13.0		BG	CKO	130	9	5	3
4171		BOUL	05	16	1415	S28	W45	05	13.1		B	CAO	80	2	4	2
4171	23651	MWIL	05	16	1500	S29	W46	05	13.0	4	(AF)					
4171		PALE	05	16	1802	S29	W48	05	13.0		B	CSO	70	2	4	3
4171		MANI	05	17	0111	S29	W51	05	13.1			HHX	260	1	2	3
4171		LEAR	05	17	0130	S28	W53	05	12.9		A	HHX	80	1	3	3
4171		ATHN	05	17	0615	S27	W51	05	13.3		A	HSX	70	1	2	2
4171		RAMY	05	17	1215	S29	W56	05	13.1		A	HAX	130	1	2	4
4171		HOLL	05	17	1427	S29	W58	05	13.1		A	HAX	90	2	2	3
4171	23651	MWIL	05	17	1600	S30	W59	05	13.0	4	(AF)					
4171		PALE	05	17	1720	S29	W59	05	13.1		A	HAX	80	1	2	3
4171		LEAR	05	18	0120	S28	W64	05	13.1		A	HAX	60	1	2	3
4171		ATHN	05	18	0615	S28	W63	05	13.3			HSX	50	1	2	2
4171		RAMY	05	18	1311	S29	W68	05	13.2		A	HSX	20	1	2	4
4171		BOUL	05	18	1445	S27	W74	05	12.8		A	HAX	60	2	2	3
4171		HOLL	05	18	1448	S29	W71	05	13.1		A	HAX	40	1	2	3
4171	23651	MWIL	05	18	1515	S28	W71	05	13.1	4	(AF)					
4171		PALE	05	18	1710	S27	W72	05	13.1		A	HSX	60	1	2	3
4171		LEAR	05	19	0053	S28	W77	05	13.0		A	HAX	70	2	2	2
4171		RAMY	05	19	1220	S28	W79	05	13.3		A	HSX	30	1	1	4
4171	23651	MWIL	05	19	1500	S28	W85	05	13.0	2	AF					
4171		HOLL	05	19	1500	S29	W88	05	12.7		A	AXX		1		4
4172		RAMY	05	06	1352	S09	E79	05	12.5		A	HAX	60	2	2	3
4172		HOLL	05	06	1535	S08	E79	05	12.6		A	AXX	20	1	1	3
4172	23652	MWIL	05	06	1545	S08	E82	05	12.8	3	(AP)					
4172		BOUL	05	06	1640	S09	E79	05	12.6		A	HSX	30	2	2	2
4172		PALE	05	06	2038	S06	E78	05	12.7		A	HSX	30	1	1	4
4172		LEAR	05	07	0030	S09	E76	05	12.7		B	CSO	60	2	1	3
4172		ATHN	05	07	0900	S11	E72	05	12.8		A	AXX	30	1	1	3
4172		RAMY	05	07	1145	S09	E69	05	12.7		A	HAX	60	1	1	3
4172		HOLL	05	07	1428	S08	E70	05	12.9		B	CSO	20	2	7	3
4172	23652	MWIL	05	07	1515	S09	E67	05	12.7	4	(AP)					
4172		BOUL	05	07	1515	S10	E68	05	12.7		B	CSO	50	2	6	3
4172		LEAR	05	08	0024	S08	E66	05	13.0		B	CSO	60	6	7	4
4172		MANI	05	08	0115	S08	E66	05	13.0			CSO	140	6	7	2
4172		RAMY	05	08	1247	S08	E56	05	12.7		A	HAX	40	1	1	4
4172		HOLL	05	08	1416	S09	E57	05	12.9		B	CSO	50	4	4	3
4172		BOUL	05	08	1540	S08	E55	05	12.8		B	CSO	40	3	3	1
4172	23652	MWIL	05	08	1545	S08	E56	05	12.9	4	(BP)					
4172		PALE	05	08	1720	S09	E55	05	12.9		B	CSO	40	3	6	3
4172		LEAR	05	09	0100	S09	E52	05	12.9		B	DSO	90	12	8	3
4172		MANI	05	09	0138	S09	E51	05	12.9			DSO	170	15	8	3
4172		RAMY	05	09	1156	S09	E45	05	12.9		B	DAO	150	20	8	3
4172		HOLL	05	09	1507	S09	E44	05	12.9		B	DSI	270	20	9	2
4172		BOUL	05	09	1550	S09	E43	05	12.9		BG	DAI	120	8	10	2
4172	23652	MWIL	05	09	1600	S09	E45	05	13.0	4	(B)					
4172		PALE	05	09	1710	S10	E43	05	12.9		BG	DAI	230	18	9	3
4172		LEAR	05	10	0058	S09	E39	05	13.0		B	DAI	310	30	9	3
4172		MANI	05	10	0310	S10	E38	05	13.0			DKI	370	27	9	2
4172		RAMY	05	10	1125	S10	E33	05	13.0		BG	DAO	210	28	10	3
4172		BOUL	05	10	1410	S08	E33	05	13.1		B	DAI	180	17	10	4
4172		HOLL	05	10	1538	S09	E32	05	13.1		B	CAO	260	27	10	4
4172	23652	MWIL	05	10	1545	S10	E31	05	13.0	4	(B)					
4172		PALE	05	10	1815	S09	E30	05	13.0		B	EAI	180	22	11	3
4172		LEAR	05	11	0200	S09	E25	05	13.0		B	DSO	180	24	10	3
4172		MANI	05	11	0224	S10	E22	05	12.8			EAI	260	19	12	3
4172		HOLL	05	11	1512	S09	E18	05	13.0		B	DAI	200	32	10	4
4172	23652	MWIL	05	11	1545	S09	E17	05	12.9	4	(BF)					
4172		RAMY	05	11	1620	S10	E16	05	12.9		B	DAO	230	33	10	4
4172		PALE	05	11	1915	S10	E16	05	13.0		B	EAI	140	34	11	3

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MAY 1983

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4172		MANI	05 12 0053	S11 E11	05 12.9			EAI	320	33	11	3
4172		LEAR	05 12 0110	S11 E12	05 13.0		B	EAI	210	36	11	3
4172		ATHN	05 12 0700	S09 E08	05 12.9			DKO	290	17	10	2
4172		BOUL	05 12 1505	S10 E04	05 12.9		BG	DAI	180	10	10	1
4172		HOLL	05 12 1550	S09 E03	05 12.9		B	EAO	240	31	11	4
4172	23652	MWIL	05 12 1600	S10 E04	05 13.0	5	(B)					
4172		LEAR	05 13 0128	S11 W01	05 13.0		B	ESO	210	34	11	2
4172		ATHN	05 13 0700	S12 W06	05 12.8		B	ESI	110	16	11	3
4172		RAMY	05 13 1315	S10 W08	05 13.0		B	EAI	200	41	12	4
4172		HOLL	05 13 1426	S10 W08	05 13.0		B	EAO	180	27	12	2
4172	23652	MWIL	05 13 1515	S10 W09	05 13.0	4	(BP)					
4172		PALE	05 13 1953	S10 W11	05 13.0		B	EAO	190	23	12	3
4172		LEAR	05 14 0156	S10 W15	05 13.0		B	EAO	160	23	12	3
4172		MANI	05 14 0219	S10 W17	05 12.8			EAO	330	23	12	3
4172		ATHN	05 14 0700	S10 W18	05 12.9			ESO	170	8	11	3
4172		HOLL	05 14 1417	S10 W24	05 12.8		B	ESO	150	17	11	3
4172	23652	MWIL	05 14 1430	S11 W24	05 12.8	4	(BP)					
4172		PALE	05 14 1750	S10 W25	05 12.9		B	ESO	130	21	11	3
4172		MANI	05 14 2320	S10 W28	05 12.9			ESI	410	21	11	3
4172		LEAR	05 15 0115	S11 W29	05 17.2		BG	DKI	290	28	10	3
4172		HOLL	05 15 1419	S12 W36	05 12.9		BG	ESI	310	23	11	3
4172	23652	MWIL	05 15 1500	S12 W36	05 12.9	5	(BY)					
4172		BOUL	05 15 1535	S11 W35	05 13.0		BG	DSI	290	16	10	2
4172		PALE	05 15 1705	S12 W38	05 12.8		BG	DSI	240	20	10	3
4172		LEAR	05 16 0110	S12 W42	05 12.9		BG	EKO	340	25	11	3
4172		MANI	05 16 0338	S12 W44	05 12.8			EKO	570	25	11	3
4172		ATHN	05 16 0600	S05 W41	05 13.2			EKO	400	11	11	3
4172		RAMY	05 16 1345	S12 W48	05 13.0		BG	DKO	290	19	9	3
4172		BOUL	05 16 1415	S11 W48	05 13.0		BG	DSO	90	18	7	2
4172	23652	MWIL	05 16 1500	S11 W49	05 12.9	5	(D)					
4172		PALE	05 16 1802	S11 W50	05 13.0		B	DSO	160	14	10	3
4172		MANI	05 17 0111	S11 W56	05 12.8			DKO	690	15	10	3
4172		LEAR	05 17 0130	S11 W55	05 12.9		BD	DKO	300	15	9	3
4172		ATHN	05 17 0615	S10 W55	05 13.1			EKO	220	13	11	2
4172		RAMY	05 17 1215	S11 W60	05 13.0		BGD	DKO	360	15	10	4
4172		HOLL	05 17 1427	S12 W64	05 12.8		BG	DAO	190	10	9	3
4172	23652	MWIL	05 17 1600	S12 W65	05 12.8	5	(D)					
4172		PALE	05 17 1720	S11 W65	05 12.8		B	DAO	150	3	8	3
4172		LEAR	05 18 0120	S11 W69	05 12.9		BD	DKO	220	10	8	3
4172		ATHN	05 18 0615	S13 W70	05 13.0			DSO	180	2	6	2
4172		RAMY	05 18 1311	S12 W73	05 13.0		B	DKO	140	4	5	4
4172		BOUL	05 18 1445	S09 W80	05 12.6		BD	DAO	180	3	8	3
4172		HOLL	05 18 1448	S11 W77	05 12.8		B	DAO	130	4	6	3
4172	23652	MWIL	05 18 1515	S12 W78	05 12.8	3	(AP)					
4172		PALE	05 18 1710	S10 W78	05 12.9		BG	DSO	160	3	6	3
4172		LEAR	05 19 0053	S11 W81	05 12.9		BD	DAO	290	3	8	2
		RAMY	05 13 1315	N01 W01	05 13.5		A	AXX	10	1	1	4
4176		HOLL	05 12 1550	S08 E26	05 14.6		B	BXO	50	9	4	4
4176	23655	MWIL	05 12 1600	S10 E26	05 14.6	4	(AF)					
4176		LEAR	05 13 0128	S08 E22	05 14.7		B	CSO	110	13	4	2
4176		ATHN	05 13 0700	S11 E16	05 14.5		B	CSO	80	9	6	3
4176		RAMY	05 13 1315	S09 E14	05 14.6		B	DAO	210	16	4	4
4176		HOLL	05 13 1426	S08 E14	05 14.7		B	DSO	210	16	5	2
4176	23655	MWIL	05 13 1515	S10 E13	05 14.6	5	(BP)					
4176		PALE	05 13 1953	S09 E11	05 14.7		B	DSO	170	10	5	3
4176		LEAR	05 14 0156	S09 E07	05 14.6		B	DSI	180	8	5	3
4176		MANI	05 14 0219	S09 E08	05 14.7			DSI	120	8	5	3
4176		ATHN	05 14 0700	S09 E05	05 14.7			DSO	180	10	9	3
4176		HOLL	05 14 1417	S08 E01	05 14.7		B	DSO	190	14	6	3
4176	23655	MWIL	05 14 1430	S10 E01	05 14.7	5	(B)					
4176		PALE	05 14 1750	S09 W01	05 14.7		B	DSO	140	9	5	3
4176		MANI	05 14 2320	S09 W04	05 14.7			DSO	370	9	5	3
4176		LEAR	05 15 0115	S09 W06	05 14.6		B	DSO	150	9	5	3
4176		ATHN	05 15 0630	S10 W06	05 14.8		A	DAO	90	7	7	3
4176		HOLL	05 15 1419	S10 W13	05 14.6		B	DSO	120	8	6	3
4176	23655	MWIL	05 15 1500	S10 W11	05 14.8	3	(BP)					
4176		BOUL	05 15 1535	S09 W11	05 14.8		B	DSO	50	7	5	2
4176		PALE	05 15 1705	S10 W15	05 14.6		B	DSO	100	8	5	3
4176		LEAR	05 16 0110	S11 W18	05 14.7		B	CAO	120	11	7	3

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MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hem!)	Spot Count	Long. Extent (Deg)	Qual
4176		MANI	05	16	0338	S10 W19	05	14.7			CAO	230	11	8	3
4176		ATHN	05	16	0600	S06 W18	05	14.9			DKO	170	6	7	3
4176		RAMY	05	16	1345	S10 W28	05	14.5		A	HAX	60	2	2	3
4176		BOUL	05	16	1415	S09 W28	05	14.5		A	HSX	70	1	2	2
4176	23655	MWIL	05	16	1500	S10 W28	05	14.5	4	(BP)					
4176		PALE	05	16	1802	S09 W30	05	14.5		A	HSX	70	1	2	3
4176		MANI	05	17	0111	S09 W31	05	14.7			HAX	240	2	9	3
4176		LEAR	05	17	0130	S10 W34	05	14.5		A	HAX	100	2	2	3
4176		ATHN	05	17	0615	S09 W33	05	14.8		B	CSO	70	3	3	2
4176		RAMY	05	17	1215	S10 W39	05	14.6		A	HAX	120	4	2	4
4176		HOLL	05	17	1427	S10 W41	05	14.5		A	HAX	80	3	2	3
4176	23655	MWIL	05	17	1600	S11 W42	05	14.5	4	(BP)					
4176		PALE	05	17	1720	S10 W42	05	14.6		A	HSX	80	2	2	3
4176		LEAR	05	18	0120	S10 W46	05	14.6		B	CSO	90	3	3	3
4176		ATHN	05	18	0615	S12 W46	05	14.8			HHX	100	1	3	2
4176		RAMY	05	18	1311	S11 W52	05	14.6		A	HSX	80	2	2	4
4176		BOUL	05	18	1445	S07 W55	05	14.5		A	HAX	90	1	2	3
4176		HOLL	05	18	1448	S10 W55	05	14.5		A	HSX	70	2	2	3
4176	23655	MWIL	05	18	1515	S11 W55	05	14.5	5	(BP)					
4176		PALE	05	18	1710	S08 W56	05	14.5		B	CSO	70	2	3	3
4176		LEAR	05	19	0053	S09 W59	05	14.6		B	CSO	130	3	3	2
4176		ATHN	05	19	0730	S10 W63	05	14.6		A	HAX	60	1	2	2
4176		RAMY	05	19	1220	S08 W66	05	14.6		B	CAO	100	5	4	4
4176		HOLL	05	19	1500	S10 W67	05	14.6		B	CSO	140	5	4	4
4176	23655	MWIL	05	19	1500	S10 W68	05	14.5	5	(BF)					
4176		PALE	05	19	1710	S09 W69	05	14.5		B	CSO	120	3	3	3
4176		LEAR	05	20	0125	S08 W75	05	14.4		B	CSO	100	3	3	3
4176		ATHN	05	20	0600	S09 W75	05	14.6			HKX	150	1	4	3
4176	23655	MWIL	05	20	1515	S11 W80	05	14.6	3	(AP)					
4176		HOLL	05	20	1550	S09 W84	05	14.4		A	HSX	60	1	2	4
4176		PALE	05	20	1815	S09 W88	05	14.2		A	HSX	70	1	3	3
4176		MANI	05	21	0035	S09 W90	05	14.3			HSX	560	1	2	3
4178		LEAR	05	14	0156	S09 E15	05	15.2		A	AXX		2	2	3
4178		MANI	05	14	0219	S09 E15	05	15.2			AXX	20	2	2	3
4178	23656	MWIL	05	14	1430	S10 E07	05	15.1	4	(BF)					
4178		LEAR	05	15	0115	S09 E01	05	15.1		B	CSO	30	4	5	3
4178	23656	MWIL	05	15	1500	S10 W06	05	15.2	4	(BP)					
4178		LEAR	05	16	0110	S09 W13	05	15.1		B	CSO	30	5	5	3
4178	23656	MWIL	05	16	1500	S09 W20	05	15.1	4	(AP)					
4178	23656	MWIL	05	17	1600	S09 W36	05	15.0	4	(AP)					
4178	23656	MWIL	05	18	1515	S08 W48	05	15.0	3	(AP)					
4184		RAMY	05	17	1215	S21 W31	05	15.1		B	CRO	10	3	3	4
4184	23661	MWIL	05	17	1600	S21 W33	05	15.1	3	(3)					
4184		PALE	05	17	1720	S20 W34	05	15.1		A	AXX		1		3
4184		LEAR	05	18	0120	S20 W37	05	15.2		B	BXO	10	3	3	3
4184	23661	MWIL	05	19	1500	S21 W59	05	15.1	3	(AP)					
4184		LEAR	05	20	0125	S21 W65	05	15.1		B	BXO	10	2	4	3
4184	23661	MWIL	05	20	1515	S21 W70	05	15.3	3	(AF)					
	23663	MWIL	05	18	1515	S14 W45	05	15.2	2	(AP)					
4177		HOLL	05	14	1417	S08 E08	05	15.2		B	CRO	20	7	6	3
4177		PALE	05	14	1750	S08 E06	05	15.2		B	CSO	30	5	5	3
4177		MANI	05	14	2320	S09 E04	05	15.3			CSO	40	5	5	3
4177		HOLL	05	15	1419	S09 W06	05	15.1		B	CSO	30	5	6	3
4177		BOUL	05	15	1535	S09 W09	05	15.0		B	CSO	30	3	2	2
4177		PALE	05	15	1705	S09 W08	05	15.1		B	CSO	30	3	3	3
4177		RAMY	05	16	1345	S09 W22	05	14.9		B	DAO	40	4	4	3
4177		BOUL	05	16	1415	S08 W22	05	14.9		B	CRO	20	3	3	2
4177		PALE	05	16	1802	S08 W24	05	15.0		B	CRO	30	3	3	3
4177		MANI	05	17	0111	S08 W27	05	15.0			CRO	20	3	3	3
4177		LEAR	05	17	0130	S08 W28	05	15.0		B	CRO	10	2	2	3
4177		ATHN	05	17	0615	S07 W28	05	15.2		A	HSX	10	1	1	2
4177		RAMY	05	17	1215	S08 W34	05	15.0		B	DAO	40	5	3	4
4177		HOLL	05	17	1427	S08 W36	05	14.9		B	BXO	10	3	2	3
4177		PALE	05	17	1720	S08 W38	05	14.9		B	CSO	20	3	2	3
4177		LEAR	05	18	0120	S08 W42	05	14.9		B	BXO	10	2	2	3
4177		RAMY	05	18	1311	S09 W47	05	15.0		A	AXX	10	1	1	4
4177		BOUL	05	18	1445	S07 W48	05	15.0		B	BXO	10	2	2	3

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4177		HOLL	05	18	1448	S08	W48	05	15.0		A	AXX	10	1	1	3
4177		PALE	05	18	1710	S07	W51	05	14.9		B	BXO	10	2	4	3
4177		LEAR	05	19	0053	S08	W54	05	15.0		A	AXX	10	1		2
0003		LEAR	05	14	0156	S05	E31	05	16.4		A	AXX	10	3	2	3
0003		MANI	05	14	0219	S05	E30	05	16.3			AXX	20	3	2	3
0003		HOLL	05	14	1417	S04	E24	05	16.4		A	AXX		1		3
0003		LEAR	05	15	0115	S05	E17	05	16.3		A	AXX		2	1	3
4174		HOLL	05	11	1512	N09	E82	05	17.8		A	HSX	20	1	2	4
4174	23654	MWIL	05	11	1545	N08	E85	05	18.0	3	(AP)					
4174		RAMY	05	11	1620	N08	E80	05	17.7		B	CAO	60	4	2	4
4174		PALE	05	11	1915	N08	E80	05	17.8		A	HSX	30	2	2	3
4174		MANI	05	12	0053	N08	E80	05	18.0			CSO	280	5	8	3
4174		LEAR	05	12	0110	N09	E79	05	18.0		B	CAO	50	5	9	3
4174		ATHN	05	12	0700	N08	E71	05	17.6			DHO	420	2	9	2
4174		BOUL	05	12	1505	N09	E70	05	17.9		B	CRO	90	3	14	1
4174		HOLL	05	12	1550	N10	E70	05	17.9		B	EAO	100	10	12	4
4174	23654	MWIL	05	12	1600	N09	E71	05	18.0	4	(BP)					
4174		LEAR	05	13	0128	N08	E67	05	18.1		B	CSO	60	12	15	2
4174		RAMY	05	13	1315	N08	E58	05	17.9		B	EAO	150	17	13	4
4174		HOLL	05	13	1426	N10	E58	05	18.0		BG	ESO	110	11	14	2
4174	23654	MWIL	05	13	1515	N09	E57	05	17.9	4	(B)					
4174		PALE	05	13	1953	N09	E55	05	18.0		B	ESO	140	12	14	3
4174		LEAR	05	14	0156	N09	E51	05	17.9		B	EAO	120	15	14	3
4174		MANI	05	14	0219	N09	E50	05	17.9			EAO	150	15	14	3
4174		ATHN	05	14	0700	N08	E45	05	17.7			ESO	190	6	15	3
4174		HOLL	05	14	1417	N09	E44	05	17.9		BG	ESO	140	19	14	3
4174	23654	MWIL	05	14	1430	N09	E44	05	17.9	4	(BY)					
4174		PALE	05	14	1750	N09	E42	05	17.9		B	ESO	120	19	14	3
4174		MANI	05	14	2320	N09	E38	05	17.8			ESO	410	28	15	3
4174		LEAR	05	15	0115	N09	E37	05	17.8		BG	EAO	170	20	14	3
4174		ATHN	05	15	0630	N08	E34	05	17.8		B	ESO	130	7	14	3
4174		HOLL	05	15	1419	N09	E30	05	17.8		BG	ESO	120	21	14	3
4174	23654	MWIL	05	15	1500	N08	E28	05	17.7	4	(D)					
4174		BOUL	05	15	1535	N08	E27	05	17.7		BD	ESI	130	12	14	2
4174		PALE	05	15	1705	N09	E28	05	17.8		BG	ESO	130	18	14	3
4174		LEAR	05	16	0110	N08	E24	05	17.8		BG	FSO	130	21	16	3
4174		MANI	05	16	0338	N09	E22	05	17.8			FSO	250	21	15	3
4174		ATHN	05	16	0600	N04	E22	05	17.9			EKO	200	8	14	3
4174		RAMY	05	16	1345	N08	E16	05	17.8		BD	EAO	80	23	15	3
4174		BOUL	05	16	1415	N08	E16	05	17.8		BG	ESO	110	6	14	2
4174	23654	MWIL	05	16	1500	N08	E15	05	17.8	4	(B)					
4174		PALE	05	16	1802	N09	E14	05	17.8		B	ESO	80	7	14	3
4174		MANI	05	17	0111	N09	E11	05	17.9			ESO	230	19	16	3
4174		LEAR	05	17	0130	N09	E10	05	17.8		B	ESO	90	19	14	3
4174		ATHN	05	17	0615	N06	E08	05	17.9			EAO	90	13	13	2
4174		RAMY	05	17	1215	N10	E05	05	17.9		BG	EAO	120	26	15	4
4174		HOLL	05	17	1427	N09	W02	05	17.5		B	CRO	30	9	6	3
4174	23654	MWIL	05	17	1600	N10	E03	05	17.9	4	(B)					
4174		PALE	05	17	1720	N10	E01	05	17.9		B	ESO	60	5	14	3
4174		LEAR	05	18	0120	N09	W05	05	17.7		B	ESO	60	12	14	3
4174		ATHN	05	18	0615	N08	W05	05	17.9			ESO	90	3	13	2
4174		RAMY	05	18	1311	N08	W09	05	17.9		B	FAO	80	8	16	4
4174		BOUL	05	18	1445	N09	W11	05	17.8		B	ESO	60	8	13	3
4174		HOLL	05	18	1448	N09	W11	05	17.8		B	CRO	30	7	14	3
4174	23654	MWIL	05	18	1515	N08	W10	05	17.9	4	(B)					
4174		PALE	05	18	1710	N09	W12	05	17.8		B	CSO	40	8	14	3
4174		LEAR	05	19	0053	N10	W18	05	17.7		B	CSO	30	2	9	2
4174		ATHN	05	19	0730	N07	W26	05	17.4		A	HSX	20	1	2	2
4174		RAMY	05	19	1220	N11	W22	05	17.9		B	CRO	40	7	16	4
4174	23654	MWIL	05	19	1500	N08	W25	05	17.7	4	(BP)					
4174		HOLL	05	19	1500	N09	W23	05	17.9		B	CRO	30	5	13	4
4174		PALE	05	19	1710	N09	W25	05	17.8		B	CRO	20	3	13	3
4174		LEAR	05	20	0125	N09	W32	05	17.7		B	CRO	20	2	10	3
4174		ATHN	05	20	0600	N08	W36	05	17.5			HHX	20	1	2	3
4174	23654	MWIL	05	20	1515	N07	W43	05	17.4	4	(AP)					
4174		HOLL	05	20	1550	N10	W40	05	17.7		B	EAO	70	14	13	4
4174		PALE	05	20	1815	N10	W42	05	17.6		B	CAO	90	14	13	3
4174		BOUL	05	20	1915	N09	W47	05	17.3		A	AXX	10	1		3
4174		MANI	05	21	0035	N10	W45	05	17.6			EAO	240	20	13	3

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4174		LEAR	05	21	0220	N09	W46	05	17.6		B	EAO	80	14	13	2
4174		RAMY	05	21	1110	N11	W49	05	17.8		B	EAO	260	15	12	3
4174		HOLL	05	21	1414	N09	W53	05	17.6		B	ESO	170	7	13	3
4174	23654	MWIL	05	21	1515	N07	W58	05	17.3	3	(AP)					
4174		PALE	05	21	1833	N10	W55	05	17.6		B	EAO	120	8	13	3
4174		MANI	05	21	2316	N10	W55	05	17.8			DAO	390	12	8	3
4174		ATHN	05	22	0715	N10	W56	05	18.1		B	DSO	150	2	8	2
4174		RAMY	05	22	1259	N10	W60	05	18.0		B	DAO	380	7	8	4
4174		HOLL	05	22	1411	N10	W62	05	17.9		B	DSO	60	10	7	3
4174		PALE	05	22	1700	N10	W63	05	18.0		B	DAO	130	5	7	3
4174		MANI	05	23	0159	N10	W69	05	17.9			DSO	500	11	9	3
4174		LEAR	05	23	0616	N10	W69	05	18.1		B	DSO	140	7	9	3
4174		RAMY	05	23	1143	N10	W73	05	18.0		B	CAO	130	4	10	4
4174		HOLL	05	23	1405	N12	W72	05	18.2		B	CSO	30	4	3	3
4174		LEAR	05	24	0020	N11	W78	05	18.1		A	HSX	20	1	2	3
4182	23658	MWIL	05	15	1500	N11	E37	05	18.4	4	(AP)					
4182	23658	MWIL	05	16	1500	N11	E23	05	18.4	4	(AP)					
4182		RAMY	05	17	1215	N14	E15	05	18.6		B	BXO	10	2	2	4
4182		HOLL	05	17	1427	N11	E10	05	18.4		B	CAO	20	2	4	3
4182	23658	MWIL	05	17	1600	N13	E10	05	18.4	4	(B)					
4182		BOUL	05	18	1445	N11	W04	05	18.3		B	BXO	30	5	3	3
4182		HOLL	05	18	1448	N12	W03	05	18.4		A	AXX		1	1	3
4182	23658	MWIL	05	18	1515	N12	W04	05	18.3	3	(AP)					
4182		LEAR	05	19	0053	N11	W09	05	18.4		B	CRO	20	3	3	2
4182		RAMY	05	19	1220	N15	W09	05	18.8		B	BXO	10	2	2	4
4182		HOLL	05	19	1500	N11	W16	05	18.4		A	AXX	10	2	1	4
4182	23658	MWIL	05	19	1500	N11	W16	05	18.4	3	(B)					
4182		LEAR	05	20	0125	N08	W26	05	18.1		A	AXX	10	1		3
4182	23658	MWIL	05	20	1515	N09	W35	05	18.0	4	(B)					
4182		HOLL	05	20	1550	N12	W31	05	18.3		A	AXX	10	2		4
4182		BOUL	05	20	1915	N11	W36	05	18.1		B	CAO	60	17	4	3
4182	23658	MWIL	05	21	1515	N10	W49	05	18.0	4	(B)					
4182	23658	MWIL	05	22	1500	N10	W61	05	18.0	4	(B)					
4182	23658	MWIL	05	23	1600	N10	W75	05	18.0	4	(BF)					
0004		LEAR	05	15	0115	N13	E60	05	19.6		A	AXX		1		3
0004		HOLL	05	15	1419	N14	E52	05	19.5		A	AXX		1		3
0004	23659	MWIL	05	15	1500	N12	E52	05	19.5	2	(AP)					
4188		RAMY	05	23	1143	S05	W46	05	20.0		B	BXO	20	3	3	4
4188		HOLL	05	23	1405	S05	W48	05	20.0		B	BXO	10	2	3	3
4188		BOUL	05	23	1435	S06	W47	05	20.1		B	CRO	20	3	3	3
4188	23672	MWIL	05	23	1600	S06	W49	05	20.0	4	(B)					
4188		LEAR	05	24	0020	S06	W53	05	20.0		B	DSO	40	2	1	3
4188		ATHN	05	24	0800	S05	W54	05	20.3			DHO	90	2	5	2
4188		RAMY	05	24	1305	S05	W63	05	19.8		B	DAO	70	3	6	3
4188		BOUL	05	24	1400	S05	W61	05	20.0		B	DRO	50	3	6	3
4188		HOLL	05	24	1436	S05	W63	05	19.9		B	BXO	10	4	6	4
4188	23672	MWIL	05	24	1600	S06	W64	05	19.9	3	(B)					
4188		LEAR	05	25	0101	S07	W68	05	19.9		B	DSO	40	3	6	3
4188		RAMY	05	25	1235	S05	W75	05	19.9		B	BXO	20	3	7	4
4188	23672	MWIL	05	25	1600	S06	W79	05	19.8	2	(B)					
	23664	MWIL	05	18	1515	S23	E28	05	20.8	2	(AP)					
4179		HOLL	05	14	1417	S26	E82	05	21.0		A	HSX	30	1	2	3
4179	23657	MWIL	05	14	1430	S26	E85	05	21.2	3	(AP)					
4179		PALE	05	14	1750	S26	E79	05	20.9		A	HSX	80	1	2	3
4179		MANI	05	14	2320	S27	E79	05	20.9			HSX	380	1	2	3
4179		LEAR	05	15	0115	S27	E76	05	21.0		B	CSO	110	2	6	3
4179		ATHN	05	15	0630	S29	E77	05	21.3		A	HHX	60	1	3	3
4179		HOLL	05	15	1419	S27	E71	05	21.1		B	CSO	140	2	7	3
4179	23657	MWIL	05	15	1500	S28	E70	05	21.1	5	(BP)					
4179		BOUL	05	15	1535	S29	E70	05	21.1		A	HSX	70	1	2	2
4179		PALE	05	15	1705	S27	E72	05	21.3		B	CSO	90	2	9	3
4179		LEAR	05	16	0110	S28	E65	05	21.1		B	CSO	100	3	7	3
4179		MANI	05	16	0338	S27	E66	05	21.3			CSO	300	3	9	3
4179		RAMY	05	16	1345	S28	E60	05	21.3		B	DAO	130	4	10	3
4179		BOUL	05	16	1415	S27	E58	05	21.1		B	CSO	80	2	8	2
4179	23657	MWIL	05	16	1500	S28	E57	05	21.1	5	(BP)					

REGIONS OF SUNSPOT ACTIVITY
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MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hem)	Spot Count	Long. Extent (Deg)	Qual
4179		PALE	05	16	1802	S28	E58	05	21.3		B	CSO	80	3	8	3
4179		MANI	05	17	0111	S27	E55	05	21.3			CSO	360	3	8	3
4179		LEAR	05	17	0130	S28	E54	05	21.3		B	CSO	140	3	9	3
4179		ATHN	05	17	0615	S29	E49	05	21.1		A	HHX	80	1	3	2
4179		RAMY	05	17	1215	S27	E45	05	21.0		B	CAO	160	3	2	4
4179		HOLL	05	17	1427	S27	E43	05	21.0		A	HSX	90	1	2	3
4179	23657	MWIL	05	17	1600	S26	E46	05	21.2	3	(AP)					
4179		PALE	05	17	1720	S28	E41	05	20.9		A	HSX	80	1	2	3
4179		LEAR	05	18	0120	S27	E38	05	21.0		B	CSO	110	2	4	3
4179		ATHN	05	18	0615	S26	E36	05	21.1			HSX	80	1	2	2
4179		RAMY	05	18	1311	S27	E31	05	21.0		A	HSX	80	1	2	4
4179		BOUL	05	18	1445	S27	E28	05	20.8		A	HAX	100	1	2	3
4179		HOLL	05	18	1448	S27	E31	05	21.0		A	HSX	100	2	3	3
4179	23657	MWIL	05	18	1515	S26	E30	05	21.0	5	(AP)					
4179		PALE	05	18	1710	S28	E30	05	21.1		B	CSO	100	3	4	3
4179		LEAR	05	19	0053	S27	E26	05	21.1		A	HSX	120	1	2	2
4179		ATHN	05	19	0730	S27	E20	05	20.9		A	HSX	120	1	2	2
4179		RAMY	05	19	1220	S26	E19	05	21.0		A	HSX	150	1	2	4
4179	23657	MWIL	05	19	1500	S27	E17	05	20.9	5	(BP)					
4179		HOLL	05	19	1500	S27	E18	05	21.0		B	CSO	120	2	4	4
4179		PALE	05	19	1710	S27	E15	05	20.9		B	CSO	100	2	3	3
4179		LEAR	05	20	0125	S26	E12	05	21.0		A	HSX	110	1	2	3
4179		ATHN	05	20	0600	S27	E10	05	21.0			HKX	90	1	3	3
4179	23657	MWIL	05	20	1515	S27	E05	05	21.0	5	(AP)					
4179		HOLL	05	20	1550	S26	E04	05	21.0		A	HSX	110	1	2	4
4179		PALE	05	20	1815	S27	E03	05	21.0		B	CSO	80	3	2	3
4179		BOUL	05	20	1915	S25	E02	05	21.0		B	CSO	80	3	3	3
4179		MANI	05	21	0035	S27	W00	05	21.0			CSO	270	6	4	3
4179		LEAR	05	21	0220	S27	W00	05	21.1		B	CSO	150	6	4	2
4179		ATHN	05	21	0615	S27	W03	05	21.0		A	HSX	90	1	2	2
4179		RAMY	05	21	1110	S26	W07	05	20.9		A	HSX	130	1	2	3
4179		HOLL	05	21	1414	S26	W08	05	21.0		A	HSX	190	1	2	3
4179	23657	MWIL	05	21	1515	S27	W08	05	21.0	5	(AP)					
4179		PALE	05	21	1833	S26	W11	05	20.9		A	HSX	110	1	2	3
4179		MANI	05	21	2316	S26	W14	05	20.9			HSX	330	1	3	3
4179		ATHN	05	22	0715	S26	W16	05	21.1		A	HSX	90	1	2	2
4179		RAMY	05	22	1259	S26	W20	05	21.0		A	HSX	90	2	2	4
4179		HOLL	05	22	1411	S26	W21	05	21.0		A	HSX	130	2	2	3
4179	23657	MWIL	05	22	1500	S27	W21	05	21.0	4	(AP)					
4179		PALE	05	22	1700	S26	W23	05	20.9		A	HSX	100	2	2	3
4179		MANI	05	23	0159	S26	W28	05	20.9			HSX	300	1	3	3
4179		MANI	05	23	0159	S26	W28	05	20.9			HSX	300	1	3	3
4179		LEAR	05	23	0616	S27	W29	05	21.0		A	HHX	240	1	3	3
4179		ATHN	05	23	1130	S27	W31	05	21.1		A	HSX	80	1	2	3
4179		RAMY	05	23	1143	S26	W32	05	21.0		A	HAX	100	1	2	4
4179		HOLL	05	23	1405	S27	W34	05	20.9		A	HHX	160	1	3	3
4179		BOUL	05	23	1435	S26	W33	05	21.0		A	HSX	80	1	2	3
4179	23657	MWIL	05	23	1600	S27	W34	05	21.0	5	(AP)					
4179		LEAR	05	24	0020	S27	W38	05	21.1		A	HSX	140	1	2	3
4179		ATHN	05	24	0800	S26	W40	05	21.2			HKX	140	1	3	2
4179		RAMY	05	24	1305	S27	W46	05	21.0		A	HAX	120	1	3	3
4179		BOUL	05	24	1400	S26	W44	05	21.2		A	HSX	60	1	2	3
4179		HOLL	05	24	1436	S27	W47	05	20.9		A	HHX	110	1	3	4
4179	23657	MWIL	05	24	1600	S27	W47	05	21.0	5	(AP)					
4179		LEAR	05	25	0101	S28	W52	05	21.0		A	HSX	170	1	2	3
4179		RAMY	05	25	1235	S27	W58	05	21.0		A	HSX	150	1	2	4
4179	23657	MWIL	05	25	1600	S27	W59	05	21.1	4	(BP)					
4179		PALE	05	25	2336	S27	W64	05	21.0		A	HSX	140	1	2	3
4179		LEAR	05	26	0135	S27	W66	05	20.9		A	HSX	100	1	2	3
4179		ATHN	05	26	0623	S24	W57	05	21.9		A	HSX	90	1	2	3
4179		RAMY	05	26	1250	S27	W79	05	20.4		A	HSX	190	1	2	2
4179	23657	MWIL	05	26	1430	S27	W74	05	20.8	3	(AP)					
4179		BOUL	05	26	1431	S27	W71	05	21.1		A	HSX	70	1	2	3
4179		HOLL	05	26	1506	S27	W72	05	21.0		A	HSX	110	1	2	4
4179		PALE	05	26	1855	S28	W75	05	20.9		A	HSX	100	1	2	3
4179		LEAR	05	27	0130	S27	W79	05	20.9		A	HSX	140	1	2	2
4179		RAMY	05	27	1200	S26	W88	05	20.7		A	HAX	130	1	2	3
4179		HOLL	05	27	1408	S27	W85	05	21.0		A	HSX	60	1	2	4
4179	23657	MWIL	05	27	1600	S27	W84	05	21.1	2	AP					
4180	23665	MWIL	05	18	1515	S22	E35	05	21.3	2	(AP)					

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10^{-6} Hemi)	Spot Count	Long. Extent (Deg)	Qual
4180	23669	MWIL	05	21	1515	S22	W03	05	21.4	2	(AP)					
4180		PALE	05	25	2336	S23	W54	05	21.8		A	AXX	10	1	1	0
4181		HOLL	05	15	1419	S22	E79	05	21.7		A	HAX	50	4	2	3
4181	23660	MWIL	05	15	1500	S24	E80	05	21.8	3	(AP)					
4181		PALE	05	15	1705	S23	E81	05	22.0		B	DSO	60	5	7	3
4181		LEAR	05	16	0110	S24	E78	05	22.1		B	DSO	50	6	8	3
4181		MANI	05	16	0338	S23	E76	05	22.0			DSO	300	6	8	3
4181		RAMY	05	16	1345	S24	E70	05	22.0		B	DAO	190	8	7	3
4181		BOUL	05	16	1415	S24	E68	05	21.8		B	CSO	30	5	8	2
4181	23660	MWIL	05	16	1500	S23	370	05	22.0	4	(BP)					
4181		PALE	05	16	1802	S24	E68	05	22.0		B	DSO	60	6	8	3
4181		MANI	05	17	0111	S23	E66	05	22.1			DSO	400	9	8	3
4181		LEAR	05	17	0130	S24	E65	05	22.1		B	DSO	100	9	10	3
4181		ATHN	05	17	0615	S26	E67	05	22.5		B	DAO	260	7	9	2
4181		RAMY	05	17	1215	S24	E59	05	22.1		B	DAO	200	17	10	4
4181		HOLL	05	17	1427	S23	E57	05	22.0		B	DAO	80	8	8	3
4181	23660	MWIL	05	17	1600	S23	E57	05	22.1	4	(B)					
4181		PALE	05	17	1720	S23	E57	05	22.1		B	DAO	100	8	8	3
4181		LEAR	05	18	0120	S24	E52	05	22.1		B	DAO	150	12	9	3
4181		ATHN	05	18	0615	S24	E50	05	22.1			DAO	160	3	8	2
4181		RAMY	05	18	1311	S23	E47	05	22.2		B	DKO	160	6	8	4
4181		BOUL	05	18	1445	S23	E44	05	22.0		B	DAO	150	9	9	3
4181		HOLL	05	18	1448	S23	E45	05	22.1		B	DAO	160	9	8	3
4181	23660	MWIL	05	18	1515	S24	E44	05	22.0	5	(B)					
4181		PALE	05	18	1710	S24	E44	05	22.1		B	DAO	140	8	9	3
4181		LEAR	05	19	0053	S23	E40	05	22.1		B	DAO	240	11	9	2
4181		ATHN	05	19	0730	S24	E35	05	22.0		B	DAO	70	4	10	2
4181		RAMY	05	19	1220	S24	E33	05	22.1		B	DAO	200	26	9	4
4181		HOLL	05	19	1500	S24	E33	05	22.2		B	DAI	250	18	10	4
4181	23660	MWIL	05	19	1500	S25	E32	05	22.1	5	(B)					
4181		PALE	05	19	1710	S24	E30	05	22.0		B	DAI	180	11	10	3
4181		LEAR	05	20	0125	S24	E26	05	22.1		B	DAO	170	22	9	3
4181		ATHN	05	20	0600	S24	E23	05	22.0			DKO	150	6	9	3
4181	23660	MWIL	05	20	1515	S24	E19	05	22.1	4	(B)					
4181		HOLL	05	20	1550	S24	E19	05	22.1		B	DAO	200	19	9	4
4181		PALE	05	20	1815	S24	E17	05	22.1		B	DSO	140	17	9	3
4181		BOUL	05	20	1915	S23	E17	05	22.1		B	DKI	230	25	10	3
4181		MANI	05	21	0035	S24	E14	05	22.1			DAO	310	19	9	3
4181		LEAR	05	21	0220	S24	E14	05	22.2		B	DSO	130	21	9	2
4181		ATHN	05	21	0615	S24	E12	05	22.2		B	DAO	130	16	10	2
4181		RAMY	05	21	1110	S24	E08	05	22.1		B	DAO	150	24	9	3
4181		HOLL	05	21	1414	S24	E06	05	22.1		B	DSO	110	13	9	3
4181	23660	MWIL	05	21	1515	S24	E06	05	22.1	5	(B)					
4181		PALE	05	21	1833	S24	E05	05	22.2		B	EAO	140	12	13	3
4181		MANI	05	21	2316	S24	E02	05	22.1			DAO	290	26	10	3
4181		ATHN	05	22	0715	S24	W03	05	22.1		B	DSO	110	4	7	2
4181		RAMY	05	22	1259	S24	W05	05	22.2		B	DAO	90	11	10	4
4181		HOLL	05	22	1411	S24	W06	05	22.1		B	DSO	80	14	9	3
4181	23660	MWIL	05	22	1500	S24	W06	05	22.2	4	(B)					
4181		PALE	05	22	1700	S24	W07	05	22.2		B	CSO	90	11	10	3
4181		MANI	05	23	0159	S24	W13	05	22.1			DSO	170	15	9	3
4181		LEAR	05	23	0616	S24	W14	05	22.2		B	DSO	100	9	9	3
4181		ATHN	05	23	1130	S24	W19	05	22.0		A	HSX	30	2	2	3
4181		RAMY	05	23	1143	S24	W18	05	22.1		B	CAO	50	11	9	4
4181		HOLL	05	23	1405	S23	W18	05	22.2		B	CSO	70	9	9	3
4181		BOUL	05	23	1435	S23	W22	05	21.9		B	CAO	50	6	3	3
4181	23660	MWIL	05	23	1600	S24	W22	05	22.0	4	(BP)					
4181		LEAR	05	24	0020	S24	W26	05	22.0		B	CSO	50	5	6	3
4181		ATHN	05	24	0800	S22	W29	05	22.1			HHX	40	1	2	2
4181		RAMY	05	24	1305	S23	W35	05	21.8		B	CSO	30	4	3	3
4181		BOUL	05	24	1400	S23	W35	05	21.9		A	HRX	20	3	2	3
4181		HOLL	05	24	1436	S23	W36	05	21.8		B	CRO	20	4	3	4
4181	23660	MWIL	05	24	1600	S23	W37	05	21.8	4	(AP)					
4181		LEAR	05	25	0101	S23	W40	05	22.0		B	CSO	30	5	4	3
4181		RAMY	05	25	1235	S22	W48	05	21.8		B	CRO	20	4	2	4
4181		BOUL	05	25	1420	S22	W47	05	22.0		A	AXX	10	2	2	2
4181	23660	MWIL	05	25	1600	S23	W48	05	22.0	3	(AP)					
4181		RAMY	05	26	1250	S22	W61	05	21.8		A	AXX	10	1	1	2
4181	23660	MWIL	05	26	1430	S23	W64	05	21.7	2	(AP)					
4181		BOUL	05	26	1431	S23	W62	05	21.8		A	AXX	10	1	1	3

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4181		HOLL	05	26	1506	S22	W63	05	21.8		A	AXX		1	1	4
4181		PALE	05	26	1855	S22	W65	05	21.8		A	AXX		1	1	3
4181		LEAR	05	27	0130	S22	W69	05	21.8		A	AXX		1		2
4181	23660	MWIL	05	27	1600	S23	W75	05	21.9	2	(AP)					
0005		HOLL	05	23	1405	S13	W18	05	22.2		A	AXX		1		3
0005	23673	MWIL	05	23	1600	S13	W19	05	22.2	3	(AF)					
4190		RAMY	05	24	1305	S20	W23	05	22.8		A	AXX		1		3
	23670	MWIL	05	21	1515	N08	E26	05	23.6	2	(AP)					
0006		HOLL	05	26	1506	S14	W40	05	23.6		A	AXX		1	1	4
0006		RAMY	05	28	1340	S11	W66	05	23.6		A	HAX	50	1	1	2
0006		HOLL	05	28	1403	S13	W64	05	23.8		A	AXX		1		3
0006	23691	MWIL	05	28	1500	S12	W64	05	23.8	2	(BP)					
0006		MANI	05	28	2335	S13	W70	05	23.7			AXX	10	1		3
4183		RAMY	05	17	1215	N17	E82	05	23.7		A	HAX	180	1	2	4
4183		HOLL	05	17	1427	N17	E82	05	23.8		A	HHX	150	1	4	3
4183	23662	MWIL	05	17	1600	N17	E80	05	23.7	3	(AP)					
4183		LEAR	05	18	0120	N17	E77	05	23.9		A	HKX	250	1	3	3
4183		ATHN	05	18	0615	N16	E76	05	24.0			CKO	180	3	4	2
4183		RAMY	05	18	1311	N17	E69	05	23.8		B	CKO	250	8	5	4
4183		BOUL	05	18	1445	N18	E69	05	23.9		BD	CKO	240	9	8	3
4183		HOLL	05	18	1448	N17	E71	05	24.0		B	CKO	260	8	8	3
4183	23662	MWIL	05	18	1515	N17	E69	05	23.9	5	(D)					
4183		PALE	05	18	1710	N17	E69	05	24.0		BD	CKO	260	7	5	3
4183		LEAR	05	19	0053	N18	E63	05	23.8		BD	CKI	620	15	8	2
4183		ATHN	05	19	0730	N17	E59	05	23.8		B	DAO	340	7	8	2
4183		RAMY	05	19	1220	N18	E58	05	23.9		B	DKC	620	37	8	4
4183		HOLL	05	19	1500	N17	E55	05	23.8		BD	DKC	910	21	10	4
4183	23662	MWIL	05	19	1500	N17	E56	05	23.9	5	(D)					
4183		LEAR	05	20	0125	N17	E50	05	23.9		BD	DKC	510	26	9	3
4183		ATHN	05	20	0600	N15	E50	05	24.0			EKO	760	13	12	3
4183	23662	MWIL	05	20	1515	N17	E42	05	23.8	5	(D)					
4183		HOLL	05	20	1550	N17	E42	05	23.9		B	EKI	770	30	11	4
4183		PALE	05	20	1815	N17	E41	05	23.9		B	EKI	550	28	11	3
4183		BOUL	05	20	1915	N17	E38	05	23.7		BG	DKI	560	34	10	3
4183		MANI	05	21	0035	N17	E38	05	23.9			EKI	1230	32	11	3
4183		LEAR	05	21	0220	N18	E36	05	23.8		B	DHI	460	30	10	2
4183		ATHN	05	21	0615	N17	E34	05	23.8			DHI	520	24	10	2
4183		RAMY	05	21	1110	N18	E32	05	23.9		BD	EHI	610	36	11	3
4183		HOLL	05	21	1414	N18	E30	05	23.9		BG	EHI	560	36	11	3
4183	23662	MWIL	05	21	1515	N18	E29	05	23.8	6	(D)					
4183		PALE	05	21	1833	N17	E29	05	24.0		BG	EKI	620	41	12	3
4183		MANI	05	21	2316	N17	E25	05	23.9			EKI	1020	45	11	3
4183		ATHN	05	22	0715	N16	E18	05	23.7			DHI	420	13	10	2
4183		RAMY	05	22	1259	N18	E17	05	23.8		BD	EKI	680	55	12	4
4183		HOLL	05	22	1411	N18	E16	05	23.8		BG	DHI	550	43	11	3
4183	23662	MWIL	05	22	1500	N18	E15	05	23.8	6	(D)					
4183		PALE	05	22	1700	N18	E15	05	23.9		BG	DKI	500	44	13	3
4183		MANI	05	23	0159	N18	E11	05	23.9			EKI	920	43	11	3
4183		LEAR	05	23	0616	N18	E08	05	23.9		BGD	EHI	570	47	12	3
4183		ATHN	05	23	1130	N18	E05	05	23.9		BD	DHI	310	20	10	3
4183		RAMY	05	23	1143	N17	E04	05	23.8		BD	EKI	330	42	12	4
4183		HOLL	05	23	1405	N18	E03	05	23.8		BG	EHI	500	30	12	3
4183		BOUL	05	23	1435	N17	E04	05	23.9		BG	EKI	320	22	11	3
4183	23662	MWIL	05	23	1600	N17	E01	05	23.7	6	(B)					
4183		LEAR	05	24	0020	N18	W03	05	23.8		BG	EHI	360	45	12	3
4183		ATHN	05	24	0800	N18	W05	05	24.0			EKO	410	24	13	2
4183		RAMY	05	24	1305	N17	W10	05	23.8		BG	EKI	340	37	12	3
4183		BOUL	05	24	1400	N17	W10	05	23.8		BG	CHO	240	14	11	3
4183		HOLL	05	24	1436	N18	W11	05	23.8		B	CHO	330	24	12	4
4183	23662	MWIL	05	24	1600	N18	W13	05	23.7	6	(BP)					
4183		LEAR	05	25	0101	N18	W16	05	23.8		BG	CHO	360	23	12	3
4183		BOUL	05	25	1420	N17	W25	05	23.7		B	CHO	260	6	5	2
4183	23662	MWIL	05	25	1600	N18	W27	05	23.6	5	(BP)					
4183		PALE	05	25	2336	N17	W35	05	23.3		B	CHO	290	2	3	3
4183		ATHN	05	26	0623	N17	W34	05	23.7			CHO	290	5	8	3
4183		RAMY	05	26	1250	N18	W38	05	23.6		BG	CHO	320	7	12	2

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hem)	Spot Count	Long. Extent (Deg)	Qual
4183	23662	MWIL	05	26	1430	N17	W41	05	23.5	5	(AP)					
4183		BOUL	05	26	1431	N16	W38	05	23.7		B	CHO	240	3	7	3
4183		HOLL	05	26	1506	N18	W40	05	23.6		B	CHO	280	4	7	4
4183		PALE	05	26	1855	N18	W45	05	23.4		A	HHX	230	1	3	3
4183		LEAR	05	27	0130	N17	W48	05	23.4		A	HSX	210	1	2	2
4183		ATHN	05	27	0700	N17	W49	05	23.6		A	HHX	240	3	3	3
4183		RAMY	05	27	1200	N18	W53	05	23.5		BD	DKO	260	3	5	3
4183		HOLL	05	27	1408	N18	W55	05	23.4		A	HHX	280	1	4	4
4183		BOUL	05	27	1415	N16	W54	05	23.5		A	HHX	320	1	3	3
4183	23662	MWIL	05	27	1600	N16	W56	05	23.4	5	(AP)					
4183		LEAR	05	28	0140	N17	W62	05	23.4		A	HHX	250	1	3	3
4183		RAMY	05	28	1340	N18	W69	05	23.3		A	HKX	250	1	6	2
4183		HOLL	05	28	1403	N16	W68	05	23.4		A	HHX	270	1	4	3
4183		BOUL	05	28	1443	N16	W70	05	23.3		A	HSX	300	1	3	3
4183	23662	MWIL	05	28	1500	N17	W69	05	23.4	5	(AP)					
4183		MANI	05	28	2335	N17	W75	05	23.3			HSX	540	1	3	3
4183		LEAR	05	29	0130	N17	W76	05	23.3		A	HHX	190	1	3	3
4183		ATHN	05	29	0630	N16	W79	05	23.3		A	HHX	250	1	4	2
4183		RAMY	05	29	1217	N18	W79	05	23.5		A	HHX	200	1	3	3
4183		BOUL	05	29	1405	N13	W82	05	23.4		A	HSX	180	4	3	3
4183	23662	MWIL	05	29	1600	N17	W83	05	23.4	3	(AP)					
4183		PALE	05	29	1817	N17	W87	05	23.1		A	HHX	160	1	4	4
		PALE	05	17	1720	N17	E82	05	24.0		A	HHX	130	1	4	3
	23671	MWIL	05	22	1500	S16	E19	05	24.1	2	(AP)					
4186		LEAR	05	20	0125	S14	E60	05	24.6		A	AXX	10	1		3
4186	23666	MWIL	05	20	1515	S14	E51	05	24.5	3	(AP)					
4186		HOLL	05	20	1550	S15	E51	05	24.5		A	AXX		1		4
4186		BOUL	05	20	1915	S14	E49	05	24.5		A	AXX	10	1		3
4186		LEAR	05	21	0220	S14	E45	05	24.5		B	BXO	10	2	1	2
4186		RAMY	05	25	1235	S13	W12	05	24.6		B	CRO	10	3	1	4
4186	23678	MWIL	05	25	1600	S13	W15	05	24.5	2	(AP)					
4186	23678	MWIL	05	26	1430	S14	W27	05	24.6	3	(AP)					
4186		HOLL	05	26	1506	S13	W28	05	24.5		A	AXX		1	1	4
4186		PALE	05	26	1855	S13	W29	05	24.6		A	HSX	10	1	1	3
4186		LEAR	05	27	0130	S13	W33	05	24.6		B	BXO	10	3	3	2
4186		ATHN	05	27	0700	S13	W36	05	24.6		B	BXO	10	2	4	3
4186		RAMY	05	27	1200	S13	W39	05	24.6		B	BXO	10	3	4	3
4186		HOLL	05	27	1408	S13	W40	05	24.6		B	BXO	10	3	5	4
4186	23678	MWIL	05	27	1600	S14	W40	05	24.6	3	(B)					
0007		RAMY	05	26	1250	N20	W21	05	24.9		A	AXX	10	2	1	2
0007	23683	MWIL	05	26	1430	N19	W23	05	24.8	3	(AP)					
0007		BOUL	05	26	1431	N19	W22	05	24.9		A	AXX		1		3
0007		HOLL	05	26	1506	N20	W23	05	24.9		A	AXX		2	1	4
0007		PALE	05	26	1855	N19	W24	05	25.0		A	AXX	10	1	1	3
4192		RAMY	05	24	1305	S15	E12	05	25.5		B	BXO	10	2	2	3
4192		BOUL	05	24	1400	S14	E13	05	25.6		A	AXX		1		3
4192		HOLL	05	24	1436	S15	E12	05	25.5		A	AXX	10	2	1	4
4192	23676	MWIL	05	24	1600	S15	E11	05	25.5	3	(AP)					
4192		HOLL	05	27	1408	S12	W31	05	25.3		A	AXX		3	1	4
4192	23690	MWIL	05	27	1600	S12	W31	05	25.3	3	(AP)					
4193		RAMY	05	25	1235	S07	E05	05	25.9		B	BXO	10	2	1	4
4193	23679	MWIL	05	25	1600	S08	E03	05	25.9	3	(BP)					
4193		PALE	05	25	2336	S08	W03	05	25.8		B	BXO	20	7	3	3
4193		LEAR	05	26	0135	S08	W04	05	25.8		B	BXO	30	8	3	3
4193		ATHN	05	26	0623	S09	W06	05	25.8		B	BXO	30	4	2	3
4193		RAMY	05	26	1250	S08	W10	05	25.8		B	DAO	20	7	4	2
4193	23684	MWIL	05	26	1430	S09	W12	05	25.7	3	(B)					
4193		BOUL	05	26	1431	S10	W11	05	25.8		B	CRO	20	4	5	3
4193		HOLL	05	26	1506	S09	W12	05	25.7		B	BXO	10	4	5	4
4193		PALE	05	26	1855	S09	W13	05	25.8		B	BXO	10	4	5	3
4193		LEAR	05	27	0130	S08	W20	05	25.6		A	AXX		1		2
4193		RAMY	05	27	1200	S08	W23	05	25.8		B	DAO	40	2	3	3
4193		HOLL	05	27	1408	S08	W24	05	25.8		B	BXO	10	4	4	4
4193		BOUL	05	27	1415	S08	W23	05	25.9		B	CRO	10	3	3	3
4193	23684	MWIL	05	27	1600	S08	W25	05	25.8	4	(B)					

REGIONS OF SUNSPOT ACTIVITY
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MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4193		LEAR	05	28	0140	S08	W31	05	25.7		B	DAO	50	11	5	3
4193		RAMY	05	28	1340	S08	W38	05	25.7		B	DAO	50	7	6	2
4193		HOLL	05	28	1403	S10	W37	05	25.8		B	DAO	50	7	6	3
4193		BOUL	05	28	1443	S10	W35	05	26.0		B	CSO	60	5	7	3
4193	23684	MWIL	05	28	1500	S09	W38	05	25.8	5	(B)					
4193		MANI	05	28	2335	S10	W43	05	25.7			CSO	50	6	7	3
4193		LEAR	05	29	0130	S09	W45	05	2.7		B	CAO	30	4	6	3
4193		ATHN	05	29	0630	S08	W47	05	25.7		B	CSO	50	4	3	2
4193		RAMY	05	29	1217	S09	W51	05	25.7		B	CAO	30	2	7	3
4193		BOUL	05	29	1405	S10	W55	05	25.5		A	AXX	10	1		3
4193	23684	MWIL	05	29	1600	S09	W54	05	25.6	4	(B)					
4193		PALE	05	29	1817	S10	W54	05	25.7		B	BXO	20	3	7	4
4193		LEAR	05	30	0047	S09	W62	05	25.4		A	HSX	30	1	1	3
4193		MANI	05	30	0125	S09	W62	05	25.4			HRX	40	1	1	3
4193		ATHN	05	30	0630	S10	W62	05	25.6		A	AXX	20	1	1	1
4193		RAMY	05	30	1153	S08	W68	05	25.4		A	AXX	20	2	1	3
4193	23684	MWIL	05	30	1600	S09	W70	05	25.4	3	(AP)					
0008	23695	MWIL	05	26	1430	S02	W05	05	26.2	2	(AP)					
0008		BOUL	05	26	1431	S03	W05	05	26.2		A	AXX		1		3
0008		HOLL	05	26	1506	S01	W05	05	26.3		A	AXX		1	1	4
0008		PALE	05	26	1855	S02	W07	05	26.3		A	AXX	10	1	1	3
4185	23667	MWIL	05	20	1515	S17	E71	05	26.0	3	(AF)					
4185		HOLL	05	20	1550	S18	E75	05	26.4		B	CSO	50	2	9	4
4185		PALE	05	20	1815	S17	E75	05	26.5		B	DSO	60	2	10	3
4185		BOUL	05	20	1915	S18	E76	05	26.6		B	DSO	120	2	11	3
4185		MANI	05	21	0035	S17	E70	05	26.3			CSO	100	2	9	3
4185		LEAR	05	21	0220	S16	E69	05	26.3		B	CSO	90	4	11	2
4185		ATHN	05	21	0615	S18	E70	05	26.6		B	CSO	80	2	12	2
4185		RAMY	05	21	1110	S16	E65	05	26.4		BD	EAO	100	8	11	3
4185		HOLL	05	21	1414	S16	E63	05	26.4		B	CSO	70	5	11	3
4185	23667	MWIL	05	21	1515	S17	E59	05	26.1	3	(BF)					
4185		PALE	05	21	1833	S17	E62	05	26.5		B	CSO	60	6	11	3
4185		MANI	05	21	2316	S17	E59	05	26.5			ESO	200	6	11	3
4185		ATHN	05	22	0715	S17	E56	05	26.6		B	CSO	70	3	10	2
4185		RAMY	05	22	1259	S16	E51	05	26.4		B	EAO	100	7	12	4
4185		HOLL	05	22	1411	S17	E50	05	26.4		B	BXO	140	12	3	3
4185	23667	MWIL	05	22	1500	S17	E46	05	26.1	3	(BF)					
4185		PALE	05	22	1700	S16	E49	05	26.4		B	CSO	40	4	11	3
4185		MANI	05	23	0159	S17	E39	05	26.0			AXX	10	2	2	3
4185		LEAR	05	23	0616	S17	E38	05	26.2		A	AXX	10	2	2	3
4185		ATHN	05	23	1130	S17	E34	05	26.1		B	DSO	130	5	8	3
4185		RAMY	05	23	1143	S16	E34	05	26.1		B	BXO	10	4	3	4
4185		HOLL	05	23	1405	S16	E33	05	26.1		A	AXX		1		3
4185	23667	MWIL	05	23	1600	S16	E32	05	26.1	3	(AF)					
4185		LEAR	05	24	0020	S18	E28	05	26.1		B	BXO	60	12	4	3
4185		RAMY	05	24	1305	S19	E21	05	26.1		B	BXO	20	7	4	3
4185		BOUL	05	24	1400	S16	E21	05	26.2		B	BXO	10	3	4	3
4185		HOLL	05	24	1436	S17	E21	05	26.2		B	BXO	20	5	4	4
4185	23667	MWIL	05	24	1600	S18	E21	05	26.3	3	(BF)					
4185		LEAR	05	25	0101	S18	E16	05	26.3		B	BXO	20	4	4	3
4185		RAMY	05	25	1235	S17	E09	05	26.2		A	AXX	10	1	1	4
4185		BOUL	05	25	1420	S14	E09	05	26.3		A	AXX	10	2	1	2
4185	23667	MWIL	05	25	1600	S16	E06	05	26.1	2	(AF)					
4185		PALE	05	25	2336	S16	E04	05	26.3		A	AXX	10	2	1	3
4185	23667	MWIL	05	26	1430	S16	W07	05	26.1	2	(AF)					
4185		PALE	05	26	1855	S15	W08	05	26.2		A	AXX	10	2	2	3
4198	23680	MWIL	05	25	1600	S05	E14	05	26.7	3	(AF)					
4198		LEAR	05	26	0135	S05	E08	05	26.7		A	AXX	10	1	1	3
4198		HOLL	05	27	1408	S05	W13	05	26.6		A	AXX		1		4
4198	23677	MWIL	05	27	1600	S05	W14	05	26.6	3	(AF)					
4198	23677	MWIL	05	28	1500	S07	W25	05	26.8	3	(AF)					
4198		MANI	05	28	2335	S08	W30	05	26.7			AXX	10	3	1	3
4198		LEAR	05	29	0130	S07	W32	05	26.7		A	AXX	10	1	1	3
4187	23668	MWIL	05	20	1515	S15	E82	05	26.8	2	(AP)					
4187	23668	MWIL	05	21	1515	S15	E69	05	26.9	3	(AP)					
4187		HOLL	05	22	1411	S17	E56	05	26.8		B	DSO	110	6	5	3
4187	23668	MWIL	05	22	1500	S17	E56	05	26.9	4	(B)					

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4187		PALE	05	22	1700	S18 E58	05	27.1		B	CAO	90	10	6	3
4187		MANI	05	23	0159	S19 E52	05	27.1			CSO	320	15	7	3
4187		LEAR	05	23	0616	S17 E48	05	26.9		B	DSO	320	25	6	3
4187		RAMY	05	23	1143	S17 E44	05	26.8		B	DAO	210	21	7	4
4187		HOLL	05	23	1405	S17 E44	05	26.9		B	DSO	280	17	8	3
4187		BOUL	05	23	1435	S18 E43	05	26.9		B	CSI	100	16	9	3
4187	23668	MWIL	05	23	1600	S18 E43	05	26.9	5	(B)					
4187		LEAR	05	24	0020	S17 E37	05	26.8		B	CSO	300	29	7	3
4187		ATHN	05	24	0800	S19 E34	05	26.9			DKO	340	7	9	2
4187		RAMY	05	24	1305	S19 E31	05	26.9		B	DAO	200	21	7	3
4187		BOUL	05	24	1400	S17 E30	05	26.9		B	DAO	240	14	8	3
4187		HOLL	05	24	1436	S18 E30	05	26.9		B	DAO	200	14	8	4
4187	23668	MWIL	05	24	1600	S17 E30	05	26.9	4	(B)					
4187		LEAR	05	25	0101	S17 E25	05	26.9		B	DAO	240	22	6	3
4187		RAMY	05	25	1235	S18 E18	05	26.9		B	DKO	340	36	7	4
4187		BOUL	05	25	1420	S16 E17	05	26.9		B	DAI	200	22	7	2
4187	23668	MWIL	05	25	1600	S17 E16	05	26.9	5	(D)					
4187		PALE	05	25	2336	S17 E13	05	27.0		B	DKO	240	24	6	3
4187		ATHN	05	26	0623	S17 E08	05	26.9		B	DSI	170	11	7	3
4187		RAMY	05	26	1250	S18 E07	05	27.1		B	DAI	250	40	7	2
4187	23668	MWIL	05	26	1430	S17 E04	05	26.9	4	(B)					
4187		BOUL	05	26	1431	S16 E03	05	26.8		B	DAI	150	23	8	3
4187		HOLL	05	26	1506	S17 E03	05	26.9		B	DAI	190	32	7	4
4187		PALE	05	26	1855	S17 E03	05	27.0		B	DAO	170	25	6	3
4187		LEAR	05	27	0130	S17 W02	05	26.9		B	DSI	160	27	7	2
4187		ATHN	05	27	0700	S16 W05	05	26.8		B	DAO	140	9	7	3
4187		RAMY	05	27	1200	S17 W08	05	26.9		B	DAO	120	29	6	3
4187		HOLL	05	27	1408	S17 W09	05	26.9		B	DSI	150	33	9	4
4187		BOUL	05	27	1415	S17 W08	05	27.0		B	DAI	110	19	7	3
4187	23668	MWIL	05	27	1600	S17 W11	05	26.8	5	(B)					
4187		LEAR	05	28	0140	S17 W15	05	26.9		B	DAI	150	30	7	3
4187		RAMY	05	28	1340	S17 W23	05	26.8		B	DAO	180	30	9	2
4187		HOLL	05	28	1403	S17 W22	05	26.9		BG	CAO	80	21	9	3
4187		BOUL	05	28	1443	S18 W20	05	27.1		B	DAI	130	31	9	3
4187	23668	MWIL	05	28	1500	S17 W24	05	26.8	5	(BY)					
4187		MANI	05	28	2335	S18 W27	05	26.9			DAI	230	40	10	3
4187		LEAR	05	29	0130	S17 W30	05	26.8		BG	DAI	180	35	10	3
4187		ATHN	05	29	0630	S17 W31	05	26.9			EAI	390	28	11	2
4187		RAMY	05	29	1217	S18 W38	05	26.6		BG	DAI	220	39	10	3
4187		BOUL	05	29	1405	S18 W37	05	26.8		B	DAI	100	46	10	3
4187	23668	MWIL	05	29	1600	S18 W40	05	26.6	4	(BY)					
4187		PALE	05	29	1817	S18 W41	05	26.6		BG	EAI	250	39	11	4
4187		LEAR	05	30	0047	S17 W46	05	26.5		BG	DAI	490	30	10	3
4187		MANI	05	30	0125	S18 W45	05	26.6			DAI	510	41	10	3
4187		ATHN	05	30	0630	S19 W47	05	26.7			DSI	310	10	10	1
4187		RAMY	05	30	1153	S18 W52	05	26.5		BG	EKO	330	34	12	3
4187	23668	MWIL	05	30	1600	S19 W53	05	26.6	4	(D)					
4187		PALE	05	30	1650	S18 W54	05	26.6		BG	EKI	280	18	11	3
4187		MANI	05	31	0050	S19 W58	05	26.6			DKC	550	29	10	3
4187		MANI	05	31	0050	S19 W58	05	26.6			DKC	550	29	10	3
4187		LEAR	05	31	0104	S19 W58	05	26.6		BGD	DKC	540	25	9	3
4187		ATHN	05	31	0630	S18 W61	05	26.6		BGD	EKI	340	9	12	3
4187		RAMY	05	31	1300	S18 W65	05	26.6		BG	DAI	320	33	10	4
4187	23668	MWIL	05	31	1414	S18 W67	05	26.5	4	(D)					
4187		PALE	05	31	1715	S18 W68	05	26.5		BG	DAO	330	11	10	3
4187		HOLL	05	31	1805	S17 W68	05	26.6		BG	DAI	480	9	9	4
4187		HOLL	05	31	1805	S17 W68	05	26.6		BG	DAI	480	9	9	4
4187		LEAR	06	01	0405	S18 W72	05	26.7		BGD	DAI	510	16	10	3
4187		MANI	06	01	0529	S18 W73	05	26.7			DAI	550	12	10	3
4187		ATHN	06	01	0600	S19 W79	05	26.2			EKO	130	5	12	3
4187		RAMY	06	01	1235	S18 W77	05	26.7		BGD	DAO	220	13	7	4
4187		BOUL	06	01	1436	S18 W80	05	26.5		B	BXI	30	3	3	3
4187		HOLL	06	01	1445	S17 W77	05	26.8		B	DAO	80	6	7	3
4187		PALE	06	01	1957	S17 W85	05	26.4		B	BXO	30	3	8	2
4187		MANI	06	01	2252	S18 W84	05	26.6			BXO	90	4	8	3
	23692	MWIL	05	28	1500	S26 W21	05	27.0	4	(AF)					
0009	23677	MWIL	05	24	1600	S12 E31	05	27.0	2	(AF)					
0009	23677	MWIL	05	25	1600	S12 E18	05	27.0	3	(AF)					
0009	23677	MWIL	05	26	1430	S11 E05	05	27.0	2	(AF)					

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
0009		LEAR	05	27	0130	S13	W01	05	27.0		A	AXX		1		2
4195	23681	MWIL	05	25	1600	S03	E20	05	27.2	2	(B)					
4195		PALE	05	25	2336	S03	E16	05	27.2		B	BXO	20	4	3	3
4195		LEAR	05	26	0135	S03	E14	05	27.1		B	BXO	20	4	2	3
4195		ATHN	05	26	0623	S05	E12	05	27.2		B	BXO	10	2	2	3
4195	23681	MWIL	05	26	1430	S03	E07	05	27.1	2	(B)					
4195		BOUL	05	26	1431	S05	E07	05	27.1		B	BXO	10	2	2	3
4195		HOLL	05	26	1506	S04	E07	05	27.2		A	AXX		1	1	4
4195		PALE	05	26	1855	S05	E05	05	27.2		A	AXX	10	2	2	3
4195		LEAR	05	27	0130	S02	E02	05	27.2		A	AXX	10	2	1	2
4195		HOLL	05	27	1408	S03	W05	05	27.2		A	AXX		1		4
4195	23681	MWIL	05	27	1600	S03	W06	05	27.2	2	(AF)					
4189		LEAR	05	23	0616	N16	E60	05	27.8		A	AXX		2	1	3
4189		RAMY	05	23	1143	N15	E57	05	27.8		B	BXO	20	3	3	4
4189		HOLL	05	23	1405	N16	E57	05	27.9		B	BXO	10	3	3	3
4189		BOUL	05	23	1435	N15	E55	05	27.8		B	BXO	10	3	3	3
4189	23674	MWIL	05	23	1600	N16	E55	05	27.8	3	(B)					
4189		LEAR	05	24	0020	N16	E49	05	27.7		A	AXX	20	2	2	3
4189		ATHN	05	24	0800	N14	E45	05	27.7			DKO	150	5	5	2
4189		RAMY	05	24	1305	N15	E43	05	27.8		B	CAO	30	7	4	3
4189		BOUL	05	24	1400	N15	E42	05	27.8		B	CSO	30	6	4	3
4189		HOLL	05	24	1436	N15	E42	05	27.8		B	CRO	30	5	5	4
4189	23674	MWIL	05	24	1600	N16	E40	05	27.7	4	(B)					
4189		LEAR	05	25	0101	N16	E36	05	27.8		B	DSO	50	10	6	3
4189		RAMY	05	25	1235	N17	E29	05	27.7		B	DSO	50	6	6	4
4189	23674	MWIL	05	25	1600	N16	E27	05	27.7	3	(B)					
4189		PALE	05	25	2336	N17	E23	05	27.7		B	CRO	30	6	6	3
4189		LEAR	05	26	0135	N17	E22	05	27.7		B	BXO	20	5	5	3
4189		ATHN	05	26	0623	N13	E18	05	27.6		B	BXO	20	2	2	3
4189		RAMY	05	26	1250	N16	E13	05	27.5		A	HRX	20	2	1	2
4189	23674	MWIL	05	26	1430	N16	E12	05	27.5	4	(AP)					
4189		BOUL	05	26	1431	N15	E12	05	27.5		A	HRX	10	1	1	3
4189		HOLL	05	26	1506	N16	E12	05	27.5		A	AXX	10	1	1	4
4189		PALE	05	26	1855	N16	E10	05	27.5		A	HSX	10	1	1	3
4189		LEAR	05	27	0130	N15	E05	05	27.4		A	AXX		1		2
4189		ATHN	05	27	0700	N15	E03	05	27.5		A	AXX	10	1	1	3
4189		RAMY	05	27	1200	N15	E01	05	27.6		A	HAX	20	1	1	3
4189		HOLL	05	27	1408	N15	W02	05	27.4		A	AXX		1		4
4189		BOUL	05	27	1415	N13	W02	05	27.4		A	AXX		1		3
4189	23674	MWIL	05	27	1600	N16	W00	05	27.7	2	(B)					
4189		LEAR	05	28	0140	N16	W04	05	27.8		A	AXX		1		3
4189		RAMY	05	28	1340	N16	W10	05	27.8		A	HAX	20	3	1	2
4189		HOLL	05	28	1403	N15	W12	05	27.7		A	AXX		2	1	3
4189		BOUL	05	28	1443	N13	W13	05	27.6		A	AXX	10	3	1	3
4189	23674	MWIL	05	28	1500	N16	W11	05	27.8	4	(AF)					
4189		MANI	05	28	2335	N15	W18	05	27.6			AXX	10	2	1	3
4189		LEAR	05	29	0130	N16	W17	05	27.8		A	AXX	10	1	1	3
4189		RAMY	05	29	1217	N17	W23	05	27.8		A	AXX	10	1	1	3
4189	23674	MWIL	05	29	1600	N16	W25	05	27.8	1	(AF)					
0010	23696	MWIL	05	26	1430	S11	E37	05	29.4	3	(AF)					
0010		PALE	05	26	1855	S09	E35	05	29.4		A	AXX	10	1	1	3
0010		LEAR	05	27	0130	S10	E30	05	29.3		A	AXX	10	2		2
4191		HOLL	05	23	1405	N12	E76	05	29.3		A	AXX	10	1	1	3
4191	23675	MWIL	05	23	1600	N12	E74	05	29.2	3	(AP)					
4191		LEAR	05	24	0020	N11	E69	05	29.2		A	AXX		2	1	3
4191		RAMY	05	24	1305	N11	E63	05	29.3		A	AXX	10	2	1	3
4191		BOUL	05	24	1400	N10	E63	05	29.3		A	AXX	10	2	1	3
4191	23675	MWIL	05	24	1600	N12	E61	05	29.3	2	(AP)					
4191		RAMY	05	25	1235	N13	E57	05	29.8		A	AXX	10	1	1	4
4191		LEAR	05	26	0135	N13	E47	05	29.6		A	AXX	10	2	2	3
4191		RAMY	05	26	1250	N13	E42	05	29.7		A	AXX	10	1	1	2
4191	23687	MWIL	05	26	1430	N14	E38	05	29.5	3	(AF)					
4191		HOLL	05	26	1506	N13	E39	05	29.6		A	AXX	10	1	1	4
4191		BOUL	05	29	1405	N09	W02	05	29.4		A	AXX	10	1		3
4191		RAMY	05	30	1153	N09	W15	05	29.4		A	AXX	10	1	1	3
4194	23682	MWIL	05	25	1600	N17	E70	05	31.0	3	(AP)					

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4194		PALE	05	25	2336	N16	E67	05	31.1		A	AXX	10	1	1	3
4194		LEAR	05	27	0130	N13	E53	05	31.1		B	BXO	20	3	4	2
4202		RAMY	05	29	1217	S10	E23	05	31.2		A	AXX	10	1	1	3
4202		PALE	05	29	1817	S10	E19	05	31.2		B	BXO	20	4	3	4
4202		RAMY	05	30	1153	S10	E09	05	31.2		A	AXX	10	2	1	3
4202		LEAR	06	01	0405	S12	W14	05	31.1		B	BXO	10	6	4	3
4202		MANI	06	01	0529	S12	W15	05	31.1			BXO	20	6	4	3
4202		RAMY	06	01	1235	S11	W15	05	31.4		B	BXO	10	3	2	4
4202		MANI	06	01	2252	S12	W25	05	31.1			BXO	20	8	7	3
4202		RAMY	06	02	1135	S09	W31	05	31.2		B	DAO	50	3	3	4
4202		HOLL	06	02	1413	S09	W33	05	31.1		A	AXX		2	1	2
4202		BOUL	06	02	1420	S12	W34	05	31.0		A	AXX	10	2	1	3
4202		PALE	06	02	1720	S09	W35	05	31.1		A	AXX	10	2	2	3
4202		MANI	06	02	2249	S10	W39	05	31.0			AXX	20	1	1	3
4202		LEAR	06	03	0315	S09	W43	05	30.9		A	AXX		1		2
4202		RAMY	06	03	1145	S12	W40	05	31.5		B	DAO	80	14	7	4
4202		HOLL	06	03	1415	S12	W43	05	31.4		B	CRO	30	10	7	3
4202		PALE	06	03	1743	S11	W44	05	31.4		B	CAO	60	9	8	4
4202		MANI	06	04	0005	S12	W47	05	31.5			CSO	70	12	8	3
4202		MANI	06	04	0005	S12	W47	05	31.5			CSO	70	12	8	3
4199	23688	MWIL	05	26	1430	S09	E65	05	31.5	2	(B)					
4199		HOLL	05	27	1408	S10	E57	05	31.9		A	AXX		1		4
4199	23688	MWIL	05	27	1600	S09	E56	05	31.9	2	(AP)					
4199		LEAR	05	28	0140	S10	E50	05	31.8		A	AXX		1		3
4199		HOLL	05	28	1403	S10	E44	05	31.9		A	AXX	10	2	1	3
4199	23693	MWIL	05	28	1500	S10	E35	05	31.3	4	(B)					
4199		MANI	05	28	2335	S10	E39	05	31.9			BXO	10	3	40	3
4199		LEAR	05	29	0130	S12	E36	05	31.8		B	BXO	10	2	3	3
4199		RAMY	05	29	1217	S13	E31	05	31.9		B	BXO	10	2	4	3
4199	23693	MWIL	05	29	1600	S11	E25	05	31.5	3	(BF)					
4199		LEAR	05	30	0047	S12	E22	05	31.7		A	AXX		1		3
4199	23693	MWIL	05	30	1600	S12	E13	05	31.6	2	(B)					
4199		MANI	05	31	0050	S12	E12	05	31.9			BXO	10	7	4	3
4199		LEAR	05	31	0104	S13	E12	06	1.0		A	AXX		1		3
4199		RAMY	05	31	1300	S10	W02	05	31.4		A	AXX	10	2	1	4
4199	23693	MWIL	05	31	1414	S11	W05	05	31.2	2	(AP)					
4199		RAMY	06	01	1235	S11	W09	05	31.8		A	AXX	10	3	1	4
4199		BOUL	06	01	1436	S11	W11	05	31.8		A	AXX	10	2		3
4199		HOLL	06	01	1445	S12	W15	05	31.5		B	BXO	40	9	9	3
4199		PALE	06	01	1957	S11	W12	05	31.9		B	BXO	20	4	3	2
4199		ATHN	06	02	0605	S11	W26	05	31.3			AXX	10	1		3
4199		RAMY	06	02	1135	S13	W22	05	31.8		B	BXO	10	6	5	4
4199		HOLL	06	02	1413	S12	W26	05	31.6		B	BXO	10	5	6	2
4199		BOUL	06	02	1420	S13	W24	05	31.8		B	BXO	20	8	8	3
4199		PALE	06	02	1720	S12	W29	05	31.5		B	CRO	20	3	3	3
4199		MANI	06	02	2249	S12	W33	05	31.5			CRO	90	5	5	3
4199		LEAR	06	03	0315	S12	W35	05	31.5		B	CRO	20	7	5	2
4199		ATHN	06	03	1035	S11	W37	05	31.7		B	CSO	50	5	6	3
4199		BOUL	06	03	1428	S11	W41	05	31.5		B	CRO	40	9	8	3
4199	23693	MWIL	06	03	1500	S12	W40	05	31.6	4	(B)					
4199		LEAR	06	04	0135	S12	W48	05	31.4		B	CRO	30	8	8	3
4199		ATHN	06	04	0730	S12	W48	05	31.7		A	HSX	20	1	1	2
4199		RAMY	06	04	1147	S11	W53	05	31.5		B	CSO	30	3	5	4
4199		HOLL	06	04	1420	S11	W54	05	31.5		B	BXO	10	3	5	3
4199		BOUL	06	04	1420	S13	W53	05	31.6		B	BXO	20	3	6	3
4199		PALE	06	04	1823	S13	W55	05	31.6		A	AXX	10	2	2	4
4199	23693	MWIL	06	04	1500	S12	W53	05	31.6	4	(BF)					
4199		LEAR	06	05	0125	S09	W57	05	31.8		A	HAX	10	1	1	3
4199		LEAR	06	05	0125	S12	W57	05	31.8		A	AXX		1	1	3
4199		HOLL	06	05	1413	S12	W70	05	31.3		B	BXO	10	2	3	4
4199		PALE	06	05	1754	S13	W75	05	31.1		B	BXO	10	3	5	4
4199	23693	MWIL	06	05	1530	S13	W73	05	31.1	3	(AP)					
4199		LEAR	06	06	0102	S13	W75	05	31.4		A	AXX		1	1	3
4199		RAMY	06	06	1300	S12	W80	05	31.5		A	AXX	10	1	1	3

May 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/SESC Region
01	0256	0302	0400	1	5	1		1	1	6	0257E	No data
01	0715	0741	0854	1	5	1	2	1	2	1	0715	No data
01	0910	0916	0925U	1-	5	1	2	1	2	2	0908	4165
01	1313	1321	1400	2	5	2	1		1	8	1316	No data
01	1819	1848	2000	2	1	1					*	
01	1840	1846	1942U	1+	3	1				10	1845E	4165
01	2000	2011	2030	1-	1					1	NF	
01	2048	2105	2222	1-	5	1		1		11	2045E	4154
01	2059U	2106	2116	1-	3	2					2058E	No data
01	2257E	2316	0210	2	3	2		1		2	NF	
01	2300	2316	0111	1+	3			1		9	2314E	4154
02	1019	1022	1049	1	3		2				1015	X-ray
02	1208	1217	1240	1-	3	2	1		1	1	1208	X-ray
02	1454	1600	1630	2	1	1					*	
02	1543	1552	1600	1-	5	1	1		1	10	1539	X-ray
02	1558	1602	1620	1-	3				1	8	1556	X-ray
02	2017	2029	2045	1-	3					2	2013	4157
03	0013	0017	0050	1-	3			1	2	2	0012	4154
03	0055	0106	0130	1-	3			1	1		0058	4165
03	0151	0156	0206U	1-	3			1	1		0150	X-ray
03	0404	0408	0424	1-	1			1			0402	4157
03	0432	0435	0442U	1-	2			1	1	1	0433	4157
03	1000	1015	1034	1	3		2				*	
03	1445	1458U	1517	1	3		2				1439	No data
03	2141	2150	2215	1-	3			1		1	2137	X-ray
04	0524	0546	0632	1-	1			1			0521	4157
04	0649	0655	0714	1	1		1				*	
05	0005	0026	0130	1	3		1	1	1	5	0004	4157
05	0020	0027	0031	1-	3			1		2	NF	
05	0332	0343	0442	1-	3		1	1	1	5	0324	4157
05	0446	0454	0515	1-	1			1			0444	X-ray
05	0516	0521	0552	1-	3			1	1	2	0514	X-ray
05	0600	0609	0625	1	3			1	2		0600	4157
05	0711	0716	0742	1-	3			1		1	0711	4157
05	0752	0755	0820	1-	1					1	0746	X-ray
05	0914	0918	0955	1	5	2	1	1		4	0910	X-ray
05	1325	1401	1500	1	3		1			2	NF	
05	1358	1406	1440	1	5	2	2		1	7	1356	X-ray
05	1900	1906	2000	1-	3					6	1856	X-ray
05	2004	2013	2042	1-	3				1	3	2005	X-ray
05	2343	2348	2349	1+	1	1	1				NF	
06	0128	0132	0147	1-	3			1	1	1	0129	X-ray
06	0319	0324	0417	1-	3			1	1	1	0318	X-ray
06	0652	0656	0814	1-	5	1		1	2	4	0649	X-ray
06	0916	0921	0930	1	1		1				0917	X-ray
06	1337	1345	1400	1-	1					1	1337	X-ray
06	1526	1533	1553	1	1		1				1528	4165
07	0134	0140	0152	1-	3			1	1		0131	4171
07	0744	0750	0930	2	5	3	2	1	2	9	0743	4171
07	1042	1052	1144	1+	5	3	3	1	1	4	*	
07	1715	1719	1730	1-	5	3			1	13	*	
07	1921	1932	2012	1-	5	2		1		12	NF	
07	2217	2223	0147	3+	5	4		1		14	2216	4171
08	0113	0116	0124	1-	1				1		NF	
08	0251	0326	0431D	3+	3	1		1	1	5	0250	No data
08	0313	0333	0353	2+	1	1					0322E	No data
08	0726	0744U	0917	1	1		1				0724	4172
09	0108	0113	0130	1-	3			1	1		0109	4172

SUDDEN IONOSPHERIC DISTURBANCES

May 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/SESC Region
09	0158	0206	0300	1-	3			1	1	3	0200	4172
09	0304	0308	0333	1-	3			1	1		0302	4171
09	0430	0442	0517	1-	3			1	1		0427	4172
09	0530	0538	0620	1	3	1	1	1	1	2	0531	4172
09	0628	0638	0700	1-	3			1		1	0627	4172
09	0710	0724	0854	2+	5	3	2	1	2	6	0710	4172
09	1205	1212	1230	1-	3		1		1	2	1200	4172
09	1410	1414	1443	1-	5	4	3	1	1	17	1411	4172
09	1625	1630	1720	1+	3					11	1623	4172
09	2304	2312	0122	3+	5	4		1	1	17	2304	4171
10	0244	0304	0338	1-	3			1	1		0255E	4172
10	0340	0402	0417	1-	3			1	1		0330	4172
10	0418	0426	0500	1-	1			1			0420E	4167
10	1014	1019	1036	1-	3			1		1	1015E	No data
10	1629	1636	1650	1-	5	1	1		1	12	1627	4173
10	1840	1848	1945	1+	3	2				12	1842	4173
11	0004	0011	0153	2+	3	2	1	1	1	8	0001	X-ray
11	0246	0256	0330	1-	3			1	1	2	0246E	No data
11	0344	0408	0549	3+	3		1	1	1	1	0354	4173
11	0355	0405	0443	1+	3	1				5	0354	4173
11	0550	0603	0650	2+	5	3	2	1	1	3	0549	X-ray
11	0736	0800	0926	1	3			1	1		0733	X-ray
11	0758E	0805	0930	1	5	2	4	1	2	5	0759	4172
11	1056	1103U	1142	1	3		1			1	*	
11	1315	1333	1444	1-	5	3	3	1	1	9	1322	4173
11	1422	1432	1530	2	3	2				3	1420	4171
11	1752	1802	1945	2+	3	1				1	NF	
11	1940	1946	2002	1-	3	1		1		9	1935	4172
11	2159	2217	2300	2+	5	2		1		11	2156	X-ray
11	2215	2219	2300	1-	3			1		1	2207	X-ray
11	2338	2345	0010	1-	3	1		1		5	2337	4173
12	0021	0044	0145	2	3			1	1	2	0020	No data
12	0036	0041	0101D	1-	3	2			1	5	0036	No data
12	0150	0203	0239	1	3	1	1	1	1	5	0150	4173
12	0253	0258	0426	2+	3	2		1	1	4	0254E	No data
12	0431	0439	0456D	1-	3			1	1		0432	No data
12	0456E	0502	0550	1	3	1		1	1	4	0454	No data
12	0552	0559	0630	1-	3			1	1		0551	4175
12	0631	0640	0810	1	5		1	1	2	7	0630	No data
12	0722	0727	0800	1-	3					2	0723	No data
12	0837	0844	0927	1-	3			1	2	3	0836	4173
12	0900	0901	0910	1	3		2				0857	4175
12	1105	1107	1120	1-	1					1	1108	X-ray
12	1200	1202	1230	1+	3					3	1156	No data
12	1239	1252	1325	1-	5	2	3		1	9	1235	4174
12	1332	1351	1438	1-	5	2	2	1	1	17	1333	4173
12	1620	1630	1643	1-	3		1	1		7	1620	4173
12	1640	1643	1650	1-	3		1		1	7	1639	4172
12	1721	1723	1735	1-	3					3	1721	4173
12	1846	1900	2100	3	1	1					1846	X-ray
12	2034	2044	2118	1-	3			1		1	2040	4173
13	0618	0640	0742	1-	3	1		1	2	1	0629E	4172
13	1022	1028	1050	1-	3	1	2	1	1	3	1025E	No data
13	1421	1435	1510	1	5	1	2		1	14	1420	4173
14	0349	0421	0542	1+	3			1	1	1	0347	4173
14	0414	0420	0436	1-	1				1		0410E	No data
14	0652	0738	0834D	2+	3		1	1			0645	No data
14	0730	0739	0820	1	5	3	2		2	8	0733	No data
14	0838	0849	0915	1-	5	2	2	1	1	5	0835	No data
14	0958	1004	1020	1-	3		1		1	2	0956	No data
14	1529	1555	1625	1-	3		2		1	3	NF	

May 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/SESC Region
14	1631	1649	1715	1-	3		2				1635	4172
14	1920	1926	1940	1	3					3	1921	4172
14	2154	2208	2246	1-	1			1			2151	X-ray
15	0032	0042	0102	1-	3			1	1		0032	X-ray
15	0112	0122	0142	1-	3			1	1		0110	X-ray
15	0535	0647	0840D	2+	3			1	1		0535	X-ray
15	0616	0624	0746	1-	3	1		1	2	4	0615	4173
15	0640	0648	0750	1-	5	3					0645	No data
15	0808	0815	0830	1-	3				1	1	NF	
15	0840E	0854	1232	3+	5	4	4	1	2	9	0840	No data
15	1614	1616	1630	1-	3					2	1608	4173
16	0002	0017	0043	1-	3			1	1		NF	
16	0044	0048	0100	1-	3			1	1		0040	X-ray
16	0422	0430	0516	1	3	1		1	1		0420	X-ray
16	0523	0528	0603D	1-	3			1	1	1	0519	X-ray
16	0603E	0613	0730	3	2		1	2	2		0601	X-ray
16	1132	1151	1230	2	5	2	3		1	4	1125	X-ray
16	1344	1349	1355	1-	3		1		1	8	1340	X-ray
16	1401	1410	1500	3	5	5	3		1	14	1405E	4173
16	1444	1448	1455	1-	3				1	6	NF	
16	1539	1542	1550	1	3					4	1536	4171
16	1655	1658	1715	1-	3					11	NF	
16	1717	1735	1835	1+	3	1				8	1708	4176
17	0200	0208	0234	1-	1			1			NF	
17	0807	0811	0820	1-	1				1		NF	
17	1330	1345	1500	2	3					3	NF	
17	2016	2020	2100	1	3					4	*	
17	2125	2128	2149D	1	1					1	2115	4183
18	0445	0452	0508	1-	1			1			NF	
18	0555	0604	0622	1-	1			1			0550	X-ray
18	1051	1055	1105	1-	3			1	1	1	1043	X-ray
18	1148	1200	1220	1-	3				1	1	1153E	No data
18	1448	1452	1515	1-	3		1		1	5	1441	4183
18	1531	1537U	1620	1-	3		1			2	1524	4183
18	1852	1853	1910	1-	3					2	1845	4183
19	0150	0200	0210U	1-	1				1		0153	4183
19	2138	2144	2214	1-	1			1			2139	4183
20	0020	0050	0136	1	3			1	1	1	0024	4183
20	0046	0052	0115	1-	3	1			1	3	0043	X-ray
20	0136	0154	0312	1+	3		1	1	1	3	0140	4183
20	0313	0322	0441	1-	3			1	1		NF	
20	0522	0547	0638	1+	3			1	2	2	0522	No data
20	0646	0654	0727	1-	3			1	2	1	0649	No data
20	0754	0808	0918	1-	5	3	1	1	2	5	0750	X-ray
20	0838	0840	0900	1-	3					3	0836	X-ray
20	1350	1355	1410	1	3		1			2	1351	X-ray
20	1507	1513	1540	1-	3	1	1		1	6	1504	No data
20	1704	1709	1725	1-	3		1		1	5	1704E	4183
20	1806	1815	1845	1-	3					2	1800	X-ray
20	2100	2119	2200	2	1	1					NF	
20	2355	2356	2357	1+	1	1					*	
21	0020	0030	0040	1-	1				1		NF	
21	0452	0518	0556	1-	1			1			0448	X-ray
21	1340	1347	1405	1-	3				1	2	1340	4183
21	1446	1515	1543	2+	1	1					NF	
21	2127	2139	2237	1-	1			1			2128	4183
22	0150	0200	0210U	1-	1				1		0150	X-ray
22	0234	0240	0254U	1-	1				1		NF	

SUDDEN IONOSPHERIC DISTURBANCES

May 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/SESC Region
22	0336	0342	0444	1-	3		1	1	1	2	0336E	4183
22	0444	0455	0552	1-	1			1			NF	
22	0912	0921	0958	1-	3	1		1	2	2	0911	X-ray
22	1009	1019	1040	1-	3			1	1	3	1005	X-ray
22	1222	1223	1245	1	1					1	1220	4183
22	1507	1538U	1608	1	1		2				1508	4179
22	2041	2100	2135	1-	3			1		1	2033	4183
22	2320	2324	2330U	1-	3			1	1		2320	4183
23	0841	0847	0926	1-	3			1	2	2	0840	4183
23	1532	1545	1615	2	1					1	1535	4174
23	1819	1821	1905	1+	3					5	1815	X-ray
24	1604	1610	1640	1-	3	1			1	3	1601	X-ray
25	0356	0402	0441	1-	3			1	1	1	0356	4183
25	0702	0706	0725	1-	1					1	0701	No data
25	0744	0749	0810	1-	1					1	NF	
25	0952	0959	1130	2+	5	3	2	1	2	4	0946	X-ray
25	2204	2214	2223	1-	1			1		1	2204E	4187
25	2324	2332	0052	1-	3	1		1	1	2	2321	X-ray
26	1434	1440	1452	1	3		2				NF	
27	1530	1601	1622	1	3		2				NF	
27	2347	0040	0333	1	3			1			NF	
28	0000	0044	0210	1+	3				1	3	0001	X-ray
28	0015	0037	0118	2	3	1				1	0001	X-ray
29	0050	0053	0110	1-	3			1	1		0047	X-ray
29	0114	0122	0153	1-	3			1	1		0116	4199
29	0207	0218	0252	1-	3			1	1		0207	X-ray
29	1344	1347	1415	1-	1					1	NF	
29	2114	2116	2145	1-	1					1	2118	X-ray
29	2306	2320	2340	1-	1			1			NF	
30	0030	0043	0100U	1-	1				1		0039	X-ray
30	0445	0454	0607	1-	3			1	1		0441	X-ray
30	1615	1628	1800	2	3					6	1623	4201
30	2312	2324	0000	1-	3	1		1			2258	X-ray
31	0326	0355	0525	1-	3			1	1	2	0334E	No data
31	0944	0952	1035	1-	3			1	1	2	0940	X-ray
31	1248	1258	1325	1-	3		2		1	3	1255	4201
31	1348	1400	1445	1+	5	2	4		1	9	1348	4201
31	1456	1508	1610	2+	5	3	4		1	11	1459	4201
31	1815	1818	1850	1+	3					11	1810	4201
31	1910	1912	1930	1-	3					4	1907	X-ray
31	1945	1959	2030	1-	1	1					*	
31	2014	2027	2055	1-	3			1		3	2010	X-ray

OBSERVATORIES REPORTING SIDs*

May 1983

Ayrshire, Scotland (AY)	SES	Louisville, Kentucky, USA (A26)	SES
Cleveland, Ohio, USA (A28)	SES	Maui, Hawaii, USA (MI)	SWF
Darmstadt, GFR (DA)	SWF	Mayfield Village, Ohio, USA (A28)	SES
Durham, North Carolina, USA (A54)	SES	Missoula, Montana, USA (A31)	SES, SWF
Edenvale, South Africa (A52)	SES	Panska Ves, Czechoslovakia (PU)	SEA, SWF
Farsta, Sweden (FA)	SES	Patterson, New Jersey, USA (A46)	SES
Frenchtown, Montana, USA (A56)	SES	Portage, Michigan, USA (A51)	SES
Glenorchy, Tasmania, Australia (GN)	SES	Roswell, New Mexico, USA (RW)	SES
Hiraiso, Japan (HI)	SWF	San Antonio, Texas, USA (SA)	SES
Hobart, Tasmania, Australia (TA)	SEA	Sofia, Bulgaria (SF)	SES
Houston, Texas, USA (A50)	SES	St. Cloud, Minnesota, USA (SC)	SES
Huancayo, Peru (HU)	SWF	Travares, Florida, USA (A49)	SES
Inubo, Japan (IN)	SPA	Trenton, New Jersey, USA (NJ)	SES
Juliusruh, GDR (JU)	SWF	Tucson, Arizona, USA (A9)	SES
Kasugai, Japan (KA)	SPA	Unhlanga Rocks, South Africa (A58)	SES
Kuhlungsborn, GDR (KU)	SPA, SEA	Upice, Czechoslovakia (UI)	SEA
Lake Hiawatha, New Jersey, USA (A32)	SES	Valley Cottage, New York, USA (A01)	SES
Latrobe, Pennsylvania, USA (A19)	SES	Walla Walla, Washington (USA) (A55)	SES
Lintong, China (LT)	SPA	Youngsville, Louisiana (YV)	SES
Los Alamos, New Mexico, USA (LA)	SES		

*Observatories are not necessarily continuous for each reporting station.

SIDs by NOAA/SESC REGION

May 1983

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Region Number																															
4154	2		1																												
4157		1	2	1	4																										
4165	2		1			1																									
4167										1																					
4171							3		2		1					1															
4172								1	9	2	2	1	1	2																	
4173										2	4	6	1	1	2	1															
4174												1											1								
4175												2																			
4176																1															
4179																						1									
4183																	1	3	2	3	2	4	1		1						
4187																									1						
4199																													1		
4201																														1	4
X-Ray		4	2		7	5					5	2		1	3	6		2		5	1	3	1	1	3			2	3	3	3
No Flare	2				3		1	1			1			1	1	3	3	1		2	2	2			1	1	2		2		
No Flare Patrol	1	1	1	1			2				1						1			1											1
No Data	3		1					2		1	1	8	1	5	2			1		3					1						1
Event Totals	11	6	8	2	14	6	6	4	11	6	15	20	3	10	8	12	5	7	2	14	5	10	3	1	6	1	2	2	6	4	9

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0000	0729	CULG				0140.0		2				IIIB,U
			LEAR				0239.0	0244.0	1				III
			CULG	0239.5	0242.0	1							IIIG,G
			CULG				0242.0		2	0242.0		1	IIIB
			CULG				0546.5		1				IIIB
			LEAR				0546.6	0546.8	1				III
			CULG				0557.0		1				IIIB
	0641	1600	WEIS				1155.2	1158.3	2				IIIG
			WEIS				1444.1	1447.0	2			II	
			SGMR				1444.6	1445.8	1				V
			SGMR				1451.3	1515.0	1				CONT
			WEIS				1451.3	1542.0	1				IIIG
			WEIS				1517.7	1518.2	1				IIIG
			SGMR				1610.6	1617.1	1				V
			SGMR				1725.6	1726.5	1				III
			SGMR				1808.1	1808.6	1				V
			PALE				1847.1	1851.3	2				III
			SGMR				1849.8	1850.3	1				III
	2142	2400	CULG	2254.5	2307.0	1							IS
02	0000	0729	CULG										
			LEAR				0045.6	0045.8	1				III
	0605	1755	WEIS				1015.8	1015.9	2				IIIB
			WEIS				1016.8	1018.1	2				IIIG
			WEIS				1030.9	1031.2	2				IIIB
			WEIS				1250.8	1251.1	2				IIIG
			WEIS				1345.5	1346.7	3				IIIGG
			WEIS	1558.1	1558.3	3							DCIM,RS
			PALE				2039.1	2039.5	2				III
	2029	2400	CULG				2046.5	2400.0	1				IS,C
			CULG			1	2048.0		1				IIIB
			CULG	2048.0	2049.0	1							IIIN
03	0000	0729	CULG				0000.0	0350.5	1				IS,C,DC
	0442	1251	WEIS										
			CULG				0638.0	0718.5					IS,W,C
	1305	1757	WEIS										
	2029	2400	CULG				2058.0	2221.0	1				IS
04	0000	0729	CULG				0106.5	0711.0	1				IN
	0441	1758	WEIS										
			CULG	0553.5	0558.5	1							IN
			LEAR				0714.3	0714.6	1				III
			WEIS				0714.4	0714.6	2				IIIG
			WEIS				1352.2	1352.3	1				IIIB
	2029	2400	CULG				2039.0	2228.5	1				IS,C
			CULG				2046.0	2046.5	1				IIIG
			CULG				2228.5	2352.0	1				IN
05	0000	0727	CULG	0023.5		2							IIIG
			CULG				0108.0	0703.0	1				IN
			CULG				0211.0	0212.0	2				IIIG
			PALE				0211.6	0212.0	2				III
			LEAR				0211.8	0212.0	1				III
	0438	0638	WEIS										
			CULG	0515.5	0516.5								DCIM
	0644	1759	WEIS	1135.8	1136.4	2							DCIM
			WEIS				1201.6	1202.4	1				DCIM
			WEIS				1205.2	1205.4	2				DCIM
			WEIS	1224.5	1224.9	1							DCIM
			WEIS	1411.8	1413.7	2							DCIM
			WEIS				1416.7	1417.6	2				DCIM
			WEIS				1419.7	1419.8	2				DCIM
			WEIS				1427.3	1427.7	1				DCIM
			WEIS				1621.6	1622.2	3				DCIM
			PALE				1950.0	1952.3	1				III
	2030	2400	CULG				2043.0	2255.0	1				IS,C,DC
			CULG				2112.5	2214.5	1				IIIN
			CULG				2143.0	2144.0	3				IIIG
06	0000	0728	CULG	0129.5	0535.5	1							IN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
06			CULG				0254.5	0255.0	2				IIIB
	0944	1818	BLEN	0954.5	0955.5	1							IIIG
			BLEN	1024.6	1036.8	3							IIIGG
	0514	1328	WEIS				1031.0	1031.2	1				DCIM
			BLEN	1100.7	1100.8	1							DCIM
			BLEN	1432.5	1433.4	3							IIIGG
			BLEN	1512.5	1521.8	2							
			BLEN	1540.1	1553.4	3	1553.0	1553.4	3				IIIG,DCIM
	1507	1801	WEIS				1642.6	1642.8	1				IIIB
			BLEN	1652.5	1652.7	2							IIIG
	2029	2400	CULG				2039.5	2040.0	2				IIIG
			CULG				2148.5		1				IIIB
			CULG	2234.0	2235.5	1							IS
07	0000	0728	CULG	0132.0	0134.5	1	0132.0	0136.0	2				IIIGG
			LEAR				0132.1	0133.1	1				V
	0502	1819	BLEN				0502.0E	1819.0D	2				I,N
			LEAR				0503.1	0504.3	1				III
			LEAR				0654.6	0654.8	1				III
			BLEN	1026.8	1028.1	2	1026.8	1028.2	2				IIIG
	0552	1803	WEIS				1347.2	1357.4	1				IIIB
	2029	2400	CULG	2047.0	2048.5								IS
			CULG	2216.0	2400.0	1							IV
			CULG							2219.0	2228.0	1	S.W.F.
			CULG				2219.0	2400.0	1				IV
			CULG				2219.5	2222.0	3				IIIG,U,V
			SGMR				2219.5	2221.1	2				V
			PALE				2219.6	2223.0	3				V
			CULG	2220.5	2222.0	3	2220.5	2222.0	3				UNCLF
			CULG				2222.0	2257.0	3				II ,H
			SGMR				2222.1	2238.1	2				II
			PALE				2223.1	2237.5	3				II
			LEAR				2336.5	0135.0	1				CONT
08	0000	0728	CULG	0000.0	0136.5	1	0000.0	0051.5	1				IV
			CULG				0113.5		2				IIIB,U
			CULG				0257.0	0410.0	3	0307.0	0410.0	2	II
			LEAR				0258.3	0311.3	2				II
			CULG	0301.0	0333.0	1							IV P
			CULG							0305.0	0410.0	1	S.W.F.
			CULG				0305.0	0435.0	1				IV
			PALE				0305.0	0314.0	2				II
			CULG				0308.0	0506.0	2				IIIN
			LEAR				0312.8	0411.6	2				IV
			CULG				0317.0	0323.5	1				P
	0430	0859	WEIS				0506.2	0506.4	2				IIIB
			LEAR				0735.8	0741.3	1				III
	0502	1820	BLEN	0959.2	0959.8	1							DCIM
			BLEN	1143.8	1146.6	3							DCIM
	0905	1804	WEIS				1143.8	1144.7	2				IIIG
	2029	2400	CULG				2237.5		2				IIIB
09	0000	0728	CULG				0140.0		1				IIIB
			LEAR				0140.0	0140.3	1				III
			LEAR				0200.0	0200.3	1				III
			SGMR				1221.1	1228.3	1				GG
	0502	1822	BLEN				1225.0	1225.6	3				IIIG
			SGMR				1343.8	1344.1	1				V
			SGMR				1449.8	1502.0	1				V
	1438	1806	WEIS				1458.6	1502.2	2				IIIGG
			BLEN				1500.0	1505.5	1				IIIG
			BLEN				1500.0	1625.0	1				I
			WEIS				1513.7	1514.0	1				IIIG
			WEIS				1540.8	1541.0	1				IIIB
			WEIS				1543.7	1544.1	2				IIIB
			WEIS				1555.4	1555.6	1				IIIB
			BLEN	1733.9	1434.8	3	1733.6	1742.4D	3				IIIGG,DCI
			WEIS				1734.2	1734.6	2				DCIM,U
			WEIS	1737.7	1737.8	1							RS
			WEIS				1741.8	1742.2	3				DCIM
			SGMR				2105.3	2105.5	1				III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
09	2029	2400	CULG				2105.5		2				IIIG
			PALE				2105.5	2105.6	2				III
			CULG				2235.0		2				IIIB
			CULG				2302.0		1				IIIB,U
			CULG	2304.0	2307.0	3	2304.0	2308.5	3	2304.0	2307.5	3	IIIGG,U
			CULG	2304.0	2310.0	1	2307.0	2400.0	1			IV	
			SGMR				2304.0	2307.5	2				G
			LEAR				2304.1	2320.1	2				G
			PALE				2304.1	2308.0	3				V
			CULG	2305.0	2307.0	3							UNCLF
			CULG							2307.0	2320.0	2	S.W.F.
			CULG	2307.0	2310.5	3	2307.0	2330.0	3	2318.5	2324.0	2	II H
			PALE				2308.0	0010.0	2				CONT
			SGMR				2308.5	2320.1	1				GG
			PALE				2318.0	2321.0	3				V
			LEAR				2320.1	0130.0	1				CONT
10	0000	0716	CULG				0251.5	0252.0	2				IIIG
			LEAR				0251.5	0252.0	1				III
			LEAR				0315.8	0316.0	1				III
			CULG				0316.0		1				IIIB
			LEAR				0334.6	0334.8	1				III
	0431	0829	WEIS										
	0502	1349	BLEN										
			LEAR				0649.6	0649.8	1				III
			LEAR				0726.1	0726.5	1				III
			BLEN	1208.5	1222.0	3	1209.9	1222.0	3			IV	II,DC C
	0835	1807	WEIS				1210.2	1215.1	2			II	HARM
			WEIS				1212.3	1212.7	1				IIIG
	1426	1823	BLEN				1449.2	1450.4	1				I
			SGMR				1933.3	1935.5	1				V
			PALE				1954.0	1954.3	1				III
			SGMR				1954.0	1954.3	1				III
			SGMR				2023.0	2023.3	1				V
			PALE				2023.1	2023.3	1				III
	2030	2400	CULG				2053.0	2335.0	1				IS
11			LEAR				0005.6	0008.8	1				III
	0000	0728	CULG	0006.0	0007.0								CONT,W
			CULG	0006.5	0007.0	2	0006.5	0007.5	2				IIIG
			CULG							0007.0	0009.0		SWF,W
			CULG				0007.5	0012.5	2			II	
			BLEN				0084.2	0842.4	2				IIIG
			LEAR				0122.8	0127.3	1				III
			LEAR				0232.0	0233.1	1				III
			CULG				0301.5	0308.0	2				IIIN
			CULG				0312.5	0426.0					IS,W
			LEAR				0334.0	0354.3	1				G
			CULG	0352.0	0353.0	1							CONT.
			CULG	0359.0	0400.0	1							CONT.
			LEAR				0359.3	0401.3	2				III
			CULG	0359.5		1	0359.5	0400.0	2				IIIG
			PALE				0400.0	0401.3	2				III
			CULG	0401.0	0401.5	3	0401.0	0401.5	3				IIIG
	0502	1823	BLEN				0502.0E	1823.0D	2				I,N
			LEAR				0553.1	0553.5	1				III
			CULG				0553.5	0554.5	1				IIIG
	0431	1414	WEIS				0553.5	0554.6	2				IIIG
			CULG				0654.5		2				IIIB
	1419	1810	WEIS				0654.7	0654.9	1				IIIB
			LEAR				0654.8	0655.0	1				III
			LEAR				0740.8	0743.3	1				III
			LEAR				0842.1	0842.3	1				III
			WEIS				0842.2	0842.4	1				IIIB
			BLEN	0853.1	0855.0	2							DCIM
			BLEN				0904.3	0905.8	2				IIIGG
			BLEN	0957.8	1000.4	3							IIIGG
			BLEN	1056.6	1057.9	2							IIIG
			SGMR				1103.3	1104.3	1				V
			WEIS				1103.5	1105.9	2				IIIGG
			BLEN				1104.0	1108.9	3				IIIGG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
11			WEIS				1108.1	1108.2	1				IIIG
			SGMR				1110.3	1110.6	1				V
			WEIS				1112.7	1113.1	2				IIIG
			BLEN	1203.9	1204.0	2							DCIM
			WEIS				1207.7	1208.6	2				IIIB,DCIM
			BLEN	1242.9	1250.2	2							IIIG
			WEIS				1250.9	1251.6	1				IIIG
			WEIS				1253.4	1253.6	1				IIIB
			WEIS				1258.4	1259.9	2				IIIG
			WEIS				1304.9	1305.9	1				IIIG
			WEIS				1311.0	1315.2	1				IIIG
			WEIS				1326.4	1327.8	2				IIIG
			WEIS				1333.2	1333.4	1				IIIB
			WEIS				1340.1	1340.3	1				IIIB
			WEIS				1344.0	1346.3	3				IIIG
			SGMR				1344.6	1345.1	1				V
			WEIS				1349.1	1349.9	1				IIIB
			WEIS				1359.7	1359.8	1				IIIB
			WEIS				1403.1	1403.4	1				IIIB
			BLEN	1413.0	1531.0	2	1413.0	1531.0	2				IV W
	1419	1810	WEIS				1419.1	1423.7	2				IIIG
			WEIS				1424.6	1425.5	2				II HARM
			WEIS				1441.0	1655.0	2				IN
			WEIS				1444.4	1451.5	2				IIIGG,DCIM
			WEIS				1454.0	1704.0	2				IIIN
			WEIS				1500.3	1502.5	2				CONT
			WEIS				1515.2	1515.8	2				IIIG
			WEIS				1612.8	1617.8	3				IIIGG,DCI
			BLEN	1613.0	1614.1	2	1612.5	1614.1	2				DCIM
	2029	2400	CULG	2041.5	2400.0	1	2041.0	2400.0	1				IS,C,DC
12	0000	0728	CULG	0000.0	0706.0	1	0000.0	0252.0	1				IS,C,DC
			LEAR				0013.5	0028.3	1				G
			CULG				0017.5	0018.0	2				IIIG
			PALE				0027.8	0029.0	2				III
			CULG				0028.0	0028.5	3				IIIG
			LEAR				0059.3	0102.0	1				III
			PALE				0100.3	0101.8	2				III
			CULG				0100.5	0102.0	2				IIIG,V
			LEAR				0126.0	0252.8	1				CONT
			LEAR				0252.8	0402.0	3				IV
			PALE				0252.8	0312.5	3				IV
			CULG	0253.0	0254.5		0253.0	0256.0	3				IIIG,V
			CULG	0253.5	0405.0	2	0255.0	0715.0	2				IV
			CULG	0254.5	0259.0	3	0255.0	0333.0	3				II
			CULG							0256.0	0305.0		S.W.F.,W
			PALE				0256.3	0259.3	3				II
			LEAR				0256.5	0337.5	3				II
			PALE				0317.8	0330.0	2				GG
			CULG				0349.5	0701.0	2				IIIN
	0425	1812	WEIS				0426.0	1727.0	2				IS,DC
			WEIS				0429.0	1745.0	2				IIIN
			CULG				0455.0	0457.5	3				IIIG,G
			LEAR				0455.0	0500.0	2				V
			WEIS				0455.2	0505.0	3				IIIGG,DCIM
			CULG				0459.0	0504.5					IIIS,W
			LEAR				0556.3	0936.0	1				CONT
	0502	1822	BLEN	0623.8	0625.8	2							DCIM
			LEAR				0700.3	0701.8	1				III
			LEAR				0716.8	0717.5	1				III
			LEAR				0748.5	0748.8	1				III
			BLEN				0822.0	1822.0	2				I,N
			BLEN				1119.0	1120.1	3				IIIG
			BLEN	1127.6	1134.2	2							DCIM
			BLEN	1301.5	1301.6	2							DCIM
			SGMR				1313.8	1314.0	1				III
			BLEN				1329.6	1331.0	3				IIIG
			BLEN	1418.1	1419.3	2							IIIG
			BLEN	1508.4	1508.8	3							DCIM
			BLEN				1516.8	1517.4	3				IIIG
			BLEN	1520.0	1520.4	3							DCIM

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
12			BLEN				1529.0	1533.4	3				IIIG
			BLEN				1604.3	1608.3	3				IIIG
			BLEN	1638.0	1640.6	3							IIIG
			BLEN	1723.5	1728.6	3	1708.5	1729.0	3				IIIG,DCIM
			BLEN	1736.2	1738.5	3							DCIM
			PALE				1844.3	1847.8	2				V
			PALE				1847.8	0423.0	2				CONT
			SGMR				1921.0	2015.1	1				CONT
	2029	2400	CULG	2041.0	2400.0	1	2040.0	2400.0	1				IS
13	0000	0728	CULG	0000.0	0347.0	1	0000.0	0153.5	1				IS,DC
			LEAR				0024.0	0358.5	1				CONT
			CULG				0238.0	0239.0	1				IIIG
			CULG				0244.5	0245.0	2				IIIG
			CULG				0352.0		1				IIIB
			CULG				0356.0		1				IIIB
			CULG				0357.0	0358.0	2				IIIG
			CULG				0447.0	0711.0					IS,W
			CULG	0455.0	0709.0	1							IS
	0501	1824	BLEN				0501.0E	1824.0D	2				I,N
			WEIS				0539.0	1744.0	3				IIIS
	0525	0736	WEIS				0545.0	1753.0	2				ISDC
			CULG	0618.5		1	0618.5		1				IIIB
			CULG				0641.5	0642.0	1				IIIG
			LEAR				0655.3	0655.5	1				III
			LEAR				0707.3	0711.6	1				III
			WEIS				0707.3	0709.8	2				IIIGG
			CULG				0707.5	0709.5	2				IIIG
			BLEN	1007.1	1007.2								DCIM
			BLEN	1022.0	1023.1	3							DCIM
			BLEN	1109.3	1109.7	2	1109.3	1111.6	3				IIIG,DCIM
			WEIS				1110.7	1111.2	2				RS
			SGMR				1428.1	1705.0	1				CONT
			SGMR				1949.1	1949.3	1				III
	2029	2400	CULG	2041.0	2400.0		2143.0	2400.0	1				IS
			CULG				2117.5	2120.0	2				IIIG,G
			SGMR				2118.8	2119.1	1				V
			CULG				2119.0	2334.0	1				IIIN
			PALE				2119.8	2120.1	2				III
			PALE				2153.8	2154.8	2				III
			SGMR				2153.8	2154.8	1				V
			CULG				2154.0	2155.0	3				IIIG
			CULG	2239.0	2239.5	3							IIIG
			CULG				2319.5	2339.5					IIIS,W
14	0000	0728	CULG	0000.0	0052.0		0000.0	0130.0					IS,W
			CULG	0052.0	0652.0	1							IN
			CULG				0112.0		1				IIIB
			LEAR				0152.8	0153.3	1				III
			PALE				0152.8	0153.1	2				III
			CULG				0153.0		3				IIIB
	0424	1353	WEIS				0452.0	1205.0	3				IS
			BLEN				0501.0E	0726.0D	1				N
	0501	0726	BLEN	0501.0E	0502.0	3							IIIG
			CULG	0523.5	0630.0	1							IS
			LEAR				0646.3	0646.5	1				III
			CULG				0651.0		1				IIIB,U
			WEIS				0656.2	0656.5	1				IIIB
			LEAR				0723.6	0727.3	1				III
			WEIS				0723.7	0724.1	2				IIIG
			BLEN	0726.0	1031.0								
	1031	1746	BLEN				0726.0E	1746.0	1				N
			WEIS				0726.7	0727.4	3				IIIG
			LEAR				0746.0	0935.0	1				CONT
			WEIS				0955.8	0957.6	3				IIIGG,DCIM
			WEIS				1141.7	1147.4	3				IIIGG
			BLEN	1142.8	1145.2	3							DCIM
			SGMR				1143.0	1147.1	1				GG
			WEIS	1143.2	1143.6	1							DCIM
			WEIS				1343.6	1343.7	1				IIIB
			WEIS				1349.1	1350.6	1				IIIB

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
14	1407	1756	WEIS				1449.6	1450.0	1				IIIG
			BLEN				1605.9	1615.3	3				IIIGG
			SGMR				1607.3	1607.8	1				V
			WEIS				1607.5	1607.6	2				IIIB
			WEIS				1609.8	1609.9	1				IIIB
			SGMR				1613.1	1618.3	2				V
			WEIS				1613.2	1623.3	3				IIIGG
			BLEN	1712.3	1712.6	3							IIIG
			SGMR				1712.3	1712.8	1				V
			WEIS				1712.6	1712.8	1				IIIG
			SGMR				1717.1	1722.5	1				GG
			WEIS				1717.1	1722.6	1				IIIG
			PALE				1905.8	1905.8	2				III
			PALE				1915.8	1916.3	2				V
			SGMR				1915.8	1916.3	1				V
			PALE				1957.8	1958.1	2				III
			SGMR				1957.8	1958.1	1				V
			SGMR				2032.0	2032.1	1				V
			PALE				2032.1	2034.5	2				III
			SGMR				2034.3	2034.5	1				V
	2029	2400	CULG	2043.0	2131.0	1							IS,S,DC
			CULG	2150.0	2154.0	1							IN
			CULG				2158.0		1				IIIB
			CULG				2159.0	2400.0	1				IS
			CULG				2309.5	2312.5	1				IIIG,G
			PALE				2313.3	2315.1	3				V
			SGMR				2313.3	2314.5	1				V
			CULG	2313.5	2314.0	1	2313.5	2313.0	3	2313.5	2315.0	3	IIIG
			LEAR				2313.5	2314.6	1				III
			CULG				2320.0	2347.0	1				IIIN
15			CULG						2				IIIG
	0000	0706	CULG				0000.0	0140.0	1				IS
			LEAR				0025.0	0934.0	1				CONT
			CULG	0038.0	0700.0	1	0140.0	0602.0	1				IN
			CULG				0225.5		2	0225.5		1	IIIB
			LEAR				0331.8	0335.1	2				V
			CULG				0332.0	0335.0	3				IIIG,G
			PALE				0332.1	0334.8	2				III
			CULG				0345.5	0548.0	2				IIIN
	0440	1748	BLEN				0440.0E	1748.0D	1				I,N
			CULG				0704.0		1				IIIB
			BLEN	0843.8	1050.0	3	0843.8	1050.0	3				IV
			LEAR				0849.5	0851.3	2				III
	1020	1814	WEIS				1033.4	1033.5	1				IIIB
			BLEN	1119.0	1124.0	2	1119.0	1124.0	2				IIIG
			WEIS				1218.8	1218.9	1				IIIB
			WEIS				1406.9	1407.3	2				IIIG
			SGMR				1407.0	1407.3	1				V
			SGMR				1610.3	1613.3	2				V
			WEIS				1610.6	1613.3	3				IIIGG,U
			BLEN	1611.0	1614.0	3	1611.0	1614.0	3				IIIGG
			SGMR				1718.0	1719.5	1				V
			WEIS				1718.1	1719.4	3				IIIG
			WEIS				1739.0	1739.6	2				IIIG
			SGMR				1739.1	1747.5	1				G
			WEIS				1741.8	1741.9	2				IIIB
			SGMR				1816.8	1819.8	2				V
			PALE				1817.0	1818.6	3				V
	2029	2400	CULG				2252.0	2253.0	3				IIIG,V
			PALE				2252.1	2253.0	2				V
			CULG				2301.0		2				IIIB
			PALE				2301.0	2301.3	2				III
			CULG				2308.5		1				IIIB
16	0000	0728	CULG	0007.0	0007.5	1							IS
			CULG				0026.0	0055.4	1				IIIN
			LEAR				0223.8	0232.1	1				III
			LEAR				0319.8	0320.1	1				III
	0435	0553	BLEN	0438.0	0438.1		0435.0	0446.5	3				IIIG,DCIM
			LEAR				0446.5	0446.8	1				V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
16			LEAR				0554.6	0554.8	1				III
			LEAR				0616.0	0620.6	1				V
	0609	1349	WEIS				0619.8	0620.3	1				IIIG
			CULG				0703.0	0705.5	1				IIIGG
			LEAR				0703.3	0720.8	1				GG
			WEIS				0703.4	0705.4	2				IIIGG
			WEIS				0717.2	0717.8	2				IIIB
			WEIS				0720.3	0720.5	1				IIIB
			LEAR				0801.6	0802.0	1				III
			WEIS				0831.6	0831.9	2				IIIB
			LEAR				0848.6	0849.0	1				III
			WEIS				0848.7	0849.0	1				IIIB
			LEAR				0903.3	0903.6	1				III
			WEIS				1045.9	1046.7	2				IIIG
			WEIS				1143.4	1144.2	2				IIIG
			WEIS				1146.3	1146.4	1				IIIB
			WEIS				1254.8	1255.1	1				IIIB
			SGMR				1332.8	1333.3	1				V
			WEIS				1332.8	1333.4	2				IIIG
			SGMR				1336.1	1337.1	1				V
			WEIS				1336.4	1337.2	2				IIIG
			WEIS				1339.0	1339.3	2				IIIG
			SGMR				1350.1	1353.3	1				G
	1355	1813	WEIS				1514.4	1514.9	2				IIIG
			WEIS				1546.7	1547.7	3				IIIG
			SGMR				1547.1	1551.3	1				G
			WEIS				1550.4	1551.3	3				IIIG
			SGMR				1558.0	1559.1	1				V
			WEIS				1558.1	1559.1	2				IIIG
			SGMR				1627.3	1630.8	1				V
			WEIS				1627.3	1627.6	2				IIIG
			WEIS				1630.6	1630.7	1				IIIG
			PALE				1702.8	1704.1	2				III
			SGMR				1702.8	1704.5	2				V
			WEIS				1702.9	1704.1	3				IIIGG
	2029	2400	CULG				2126.0	2126.5	1				IIIG
			CULG				2149.5		1				IIIB
			CULG	2159.0	2159.5	1	2159.0	2159.5	3				IIIG
			PALE				2159.0	2159.3	2				III
			SGMR				2159.0	2159.1	1				III
			CULG				2203.5	2205.0	1				IS
			CULG				2204.0		3				IIIB
			CULG				2241.5	2242.5	2				IIIG
			PALE				2245.3	2249.3	3				III
			SGMR				2246.8	2250.0	1				III
			CULG	2248.0	2251.0	2	2245.0	2251.0	3				IIIGG
			CULG				2257.0		2				IIIB
17	0000	0728	CULG				0017.5	0019.0	1				IIIG
			LEAR				0145.8	0146.1	2				III
			PALE				0145.8	0146.0	3				III
			CULG				0146.0		3	0146.0		2	IIIB
			CULG				0304.0		1				IIIB
			CULG	0355.5	0356.0	3	0355.5	0356.0	2				IIIG
			LEAR				0456.8	0457.1	1				III
			CULG				0457.0	0640.0	1				IIIN
			LEAR				0612.3	0640.1	1				G
			LEAR				0712.3	0712.6	1				III
			LEAR				0722.8	0725.1	1				III
	0513	1805	WEIS				0722.9	0725.2	2				IIIG
			LEAR				0802.8	0803.1	1				III
			WEIS				0946.2	0946.3	1				IIIG
			SGMR				1135.5	1138.0	1				G
			WEIS				1237.4	1237.7	1				IIIG
			WEIS				1242.1	1242.2	1				IIIB
			WEIS				1249.9	1250.2	3				IIIB
			WEIS				1350.9	1351.2	1				IIIG
			WEIS				1616.3	1618.2	3				IIIGG
			WEIS				1623.5	1624.1	2				IIIG
			WEIS				1635.2	1635.4	3				IIIGG
			WEIS				1658.2	1659.0	2				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
17			SGMR				1707.0	1707.5	1				V
			WEIS				1707.1	1707.2	1				IIIB,DCIM
			WEIS				1720.2	1720.7					IIIG
			WEIS				1729.4	1729.7	2				
			PALE				2043.8	2045.8	1				III
			SGMR				2043.8	2147.0	1				GG
			PALE				2114.8	2116.6	1				III
	2029	2400	CULG	2115.0	2257.0	1	2115.0	2305.0	3	2128.0	2305.0	1	IIIG,N
			PALE				2122.1	2122.3	2				V
			PALE				2127.8	2129.1	2				III
			PALE				2135.6	2136.3	2				III
			CULG				2158.5	2319.5	1				IIIN
			PALE				2202.3	2202.6	2				III
			SGMR				2202.5	2202.6	1				III
			CULG				2219.0	2321.5	2				IIIN
			PALE				2248.0	2303.1	2				G
			PALE				2321.1	2321.3	1				III
18	0000	0728	CULG	0108.5		1	0108.5		1				IIIG
			LEAR				0115.1	0115.5	1				III
			LEAR				0143.8	0144.1	1				III
			LEAR				0207.0	0207.3	1				III
			LEAR				0228.8	0232.8	1				III
			CULG				0230.5	0232.5	2				II
			PALE				0232.1	0232.8	1				III
			CULG				0339.0	0339.5	1				IIIG
			CULG				0419.5		1				IIIB
			CULG				0536.5	0540.0	1				IIIN
			CULG				0537.5	0634.5	2				IIIG,N
	0411	0933	WEIS				0537.7	0539.3	3				IIIG
			WEIS				0623.6	0624.1	3				IIIG
			WEIS				0628.7	0629.4	3				IIIG,DCIM
			LEAR				0629.1	0633.8	1				III
			CULG				0633.5		3				IIIB
			WEIS				0633.7	0634.7	3				IIIG
			WEIS				0831.4	0839.7	2				IIIG
			LEAR				0831.8	0833.1	1				V
			WEIS	0836.6	0836.7	2							DCIM
			WEIS				0837.7	0837.8	1				IIIB
	0938	1819	WEIS				1123.7	1123.8	1				IIIB
			SGMR				1234.3	1234.5	1				III
			WEIS				1234.3	1234.6	3				IIIG
			WEIS				1411.9	1414.4	2				IIIGG
			SGMR				1412.6	1413.0	1				III
			WEIS				1420.2	1421.1	3				IIIG
			SGMR				1420.8	1421.1	1				III
			WEIS				1450.6	1450.7	1				IIIB
			WEIS				1502.1	1502.3	1				IIIB
			SGMR				1628.8	1638.0	1				GG
			WEIS				1628.8	1629.1	2				IIIG
			WEIS				1636.0	1636.3	1				IIIG
			WEIS				1638.3	1639.0	3				IIIG
			WEIS				1642.8	1642.9	1				IIIB
			SGMR				1718.1	1722.1	1				V
			WEIS				1722.0	1722.2	1				IIIB
			PALE				1850.1	1850.8	2				III
			SGMR				1850.1	1857.6	1				V
			PALE				1929.1	1940.1	2				G
			SGMR				1929.1	1931.6	1				V
	2029	2400	CULG	2048.5	2257.0	1							IIIN
			CULG	2049.5	2313.5	3	2049.5	2322.0	3				IIIG,N
			CULG				2150.5	2152.0	1				IIIGG
			CULG				2153.5	2329.0	2				IIIG,N
			LEAR				2308.0	0544.5	1				CONT
			LEAR				2321.8	2322.1	1				III
			PALE				2321.8	2322.1	3				III
19	0000	0728	CULG				0055.0	0102.0	2	0055.0	0102.0	1	IIIG,N
			CULG				0334.5	0335.0	2				IIIG
			CULG				0335.0	0556.0	1				IIIN
			CULG				0447.5	0548.5	2				IIIG,N

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
19			CULG				0520.0	0550.5	3				IIIN
	0520	1523	WEIS				0525.7	0526.6	2				IIIG
			WEIS				0530.8	0531.2	1				IIIG
			WEIS				0536.8	0538.2	2				IIIG
			WEIS				0544.4	0550.8	3				IIIGG
			CULG				0544.5	0545.5	3				IIIG
			LEAR				0544.5	0606.0	2				CONT
			WEIS				0546.1	0556.2	1				IIIB
	0440	1752	BLEN				0554.3	0545.8	3				IIIGG
			WEIS				0558.5	0558.6	1				IIIB
			WEIS				0600.2	0602.8	3				IIIG
			CULG				0601.5	0625.0	3				IIIG
			BLEN				0736.0	1646.0	2				I,N
			BLEN	0759.2	0759.3	1							III
			WEIS				0907.0	0907.3	1				IIIG
			BLEN	0932.8	0935.0	3	0932.8	0935.0	3				IIIGG
			BLEN	0933.3	0933.5	2							DCIM
			WEIS				0933.4	0933.5	1				DCIM
			WEIS				0934.7	0935.0	2				IIIG
			BLEN	1125.1	1130.2	3	1126.3	1129.2	3				IIIGG
			WEIS				1126.3	1126.8	1				DCIM
			WEIS	1128.6	1130.2	1							DCIM
			BLEN	1215.8	1215.8	3	1215.8	1215.8	3				IIIB
			WEIS				1448.4	1449.4	3				IIIG
			SGMR				1449.1	1449.1	1				III
	1525	1800	WEIS										
			PALE				1847.3	1847.5	1				III
			PALE				2021.1	2021.3	1				III
			SGMR				2021.1	2022.0	1				V
			SGMR				2121.1	2122.0	1				V
	2029	2400	CULG				2305.5	2306.5	1				DC
			CULG	2327.0		1	2327.0		1				IIIG
20	0000	0723	CULG	0030.0	0032.5	1							CONT.
			CULG				0102.5	0723.0	1				IS,C
			LEAR				0108.0	0143.0	1				GG
			CULG				0240.5	0638.0	1				IIIN
			LEAR				0304.6	0304.8	1				III
			CULG				0425.5	0426.0	2				IIIG
			LEAR				0425.5	0428.1	1				III
			CULG				0428.0		3				IIIB
	0430	1755	BLEN	0437.4	0738.0	3							DCIM
			BLEN				0455.0	1755.0D	1				I,DCIM
			BLEN	0518.3	0527.5	2	0518.3	0527.5	2				IIIGG
			LEAR				0518.3	0522.8	1				III
			CULG	0518.5		1	0518.5	0519.0	3				IIIB,U.
			CULG	0522.0	0522.5	1	0522.0	0523.0	3				IIIG,V
			BLEN	0550.3	0551.6	3	0550.4	0551.6	3				DCIM
			CULG	0550.5	0706.0	3							IS,N
			BLEN	0629.7	0632.2	3	0629.7	0632.2	2				IIIG,DCIM
	0551	1818	WEIS				0629.7	0629.9	2				DCIM
			BLEN	0648.5	0648.8	2							DCIM
			BLEN	0705.8	0719.9	2							DCIM
			BLEN				1137.3	1137.5	2				III
			WEIS				1504.6	1506.4	2				IIIG
			SGMR				1505.6	1514.0	1				GG
			WEIS				1511.6	1513.8	3				IIIGG
			SGMR				1624.3	1624.6	1				III
			WEIS				1624.5	1624.7	3				IIIG
	2029	2400	CULG	2113.0	2400.0	1	2110.0	2400.0	2				IS,C,DC
21	0000	0728	CULG	0000.0	0240.0	1	0000.0	0710.0	2				IS,C,DC
			CULG				0003.0	0003.5	3				IIIG,V
			LEAR				0003.0	0003.1	1				III
			LEAR				0003.3	0932.0	1				CONT
			CULG				0011.0		2				IIIB
			CULG	0240.0	0610.5	1							IN,C
			BLEN				0425.0E	1753.0D	2				I,DCIM
			CULG				0440.5	0616.0	1				IIIN
			CULG				0546.5	0624.0					IIIS,W
			CULG				0600.0		2				IIIB

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
21			CULG				0617.5		2				IIIB
			LEAR				0752.6	0756.3	2				V
	0642	1151	WEIS				0752.7	0754.7	3				IIIGG
			BLEN				0915.8	0917.5	1				IIIG
			WEIS				1128.0	1128.3	2				IIIG
	1159	1906	WEIS				1321.3	1321.4	1				IIIB
			WEIS				1340.1	1341.6	1				IIIG
			WEIS				1521.0	1638.0	2				IN
			BLEN				1727.8	1728.0	3				III
22			LEAR				0128.0	0932.0	1				CONT
			CULG				0334.5	0650.5					IIIS,W
			BLEN	0419.0E	1805.0D	2	0419.0E	1805.0D	2				I,N
	0419	1805	BLEN				0419.9	0449.0	2				IIIGG,U
			BLEN				0518.6	0519.2	2				IIIG
			BLEN	0911.2	0914.3	2	0911.2	0911.6	3				IIIGG
	1100	1509	WEIS				1109.0	1230.0	3				CONT
			SGMR				1112.0	0000.0	1				CONT
	1517	1821	WEIS				1517.0	1821.0	3				CONT
			WEIS				1619.0	1742.0	2				IIIN
			PALE				1647.0	0420.0	1				CONT
	1839	1939	WEIS										
			PALE				2002.5	2003.1	2				V
			PALE				2004.1	2009.1	2				V
	2029	2400	CULG				2050.0	2400.0	2				IS,C,DC
			CULG				2109.0	2400.0	1				IIIS
			CULG				2144.0	2208.0	2				IIIN
			LEAR				2341.3	2341.6	1				III
			CULG				2341.5		3				IIIB,U
23			CULG				0000.0	0210.0					IIIS,W
	0000	0728	CULG				0000.0	0709.5	1				IS,C,DC
			CULG				0005.0	0514.0	1				IIIN
	0420	1755	BLEN	0744.5	0748.8	3							DCIM
			BLEN				0828.5	0829.0	2				IIIG
			BLEN	1032.6	1033.0	1							DCIM
			BLEN				1035.1	1035.3	2				III
			SGMR				1341.0	1351.5	1				G
			PALE				1807.1	1807.5	2				III
			SGMR				1808.3	1808.6	1				V
			PALE				1931.0	1933.8	2				III
	2029	2400	CULG				2231.5		1				IIIB
			CULG				2251.0		2				RSDP
			CULG				2253.0		2				IIIG
			PALE				2258.8	2259.1	2				III
			CULG				2259.0	2259.5	2				IIIB
			PALE				2322.8	2323.1	2				III
			CULG				2323.0	2323.5	3	2323.0	2323.5	2	IIIG,V
			LEAR				2323.0	2323.5	1				III
			CULG				2355.5		1				IIIB
24			LEAR				0015.3	0016.0	1				III
			PALE				0015.3	0016.1	2				III
	0000	0728	CULG				0015.5	0016.0	2				IIIG,U
			CULG				0041.0		1				IIIB,U
			CULG				0140.0	0156.0					II S,W
	0420	0616	BLEN										
			CULG				0445.5	0446.0	1				IIIG
	1013	1405	WEIS				1201.7	1201.8	1				IIIG
	1356	1756	BLEN	1416.2	1417.0	1	1416.2	1417.0	1				IIIG
			SGMR				1524.1	1524.3	1				V
	1418	1816	WEIS				1524.1	1524.7	1				IIIB
			SGMR				1559.6	1610.0	2				GG
			BLEN	1559.7	1603.4	1	1559.7	1603.4	3				III,V
			WEIS				1559.8	1603.3	2				IIIG
			BLEN				1604.9	1610.0	3				II
			WEIS				1606.3	1613.4	3				IIIG
			SGMR				1610.0	1614.5	1				V
	2029	2400	CULG										
			PALE				2040.8	2042.5	1				III
			SGMR				2040.8	2042.3	1				V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
25			LEAR				0056.0	0101.3	1				III
	0000	0729	CULG				0126.0	0618.5	1				IIIN
			CULG				0131.0		2				IIIB
			LEAR				0344.5	0344.6	1				III
	0414	0630	WEIS										
			LEAR				0519.8	0520.8	1				V
	0430	1756	BLEN	0725.2	0731.8	2							IIIG
			BLEN				0848.4	0849.5	2				IIIG
			BLEN	0925.3	0929.9	2	0925.3	0929.9	1				IIIG
			BLEN	0946.6	0953.3	2	0946.6	0953.3	3				IIIGG,V
			BLEN	0949.8	0954.0	1							DCIM
	0644	1025	WEIS				0949.8	0953.6	2				IIIG,DCIM
			WEIS				0955.5	1005.5	2			II	HARM
			WEIS				1007.8	1008.4	1				IIIG
			WEIS				1019.3	1020.9	1				IIIG
			BLEN				1714.4	1719.3	2				IIIG
	1035	1737	WEIS				1714.5	1715.1	2				IIIG
			PALE				1719.0	1722.0	1				V
			SGMR				1719.1	1722.1	1				V
			WEIS				1719.2	1722.2	2				IIIG,U
	2030	2400	CULG	2154.0	2156.5	2	2154.5	2155.0	1				IIIG
			CULG				2218.5	2219.0	3				IIIB
			CULG				2219.5	2220.5	2				IIIG
			CULG				2228.0		1				IIIB
			CULG				2332.0	2337.0	1			II	
26	0000	0729	CULG				0026.0		1				IIIB
	0430	1356	BLEN	1135.3	1135.8	2	1130.9	1135.8	2				IIIGG
	0615	1757	BLEN	1146.1	1147.0	3							DCIM
			BLEN				1216.8	1217.4	1				III
	0520	1853	WEIS				1638.7	1640.4	2				IIIG
			WEIS				1651.3	1651.4	1				IIIB
			PALE				1923.3	1924.0	1				III
			SGMR				1938.8	1939.3	1				V
			PALE				1939.0	1940.0	2				V
			SGMR				1939.3	1940.1	1				V
	0029	2400	CULG				2356.5	2357.5	1				IIIG
			CULG	2357.0		3	2357.0		3				IIIB
			LEAR				2357.0	2357.1	1				III
			PALE				2357.0	2357.3	2				III
27	0000	0729	CULG				0029.0		1				IIIB
	0429	0534	WEIS				0511.8	0512.0	2				IIIG
			LEAR				0540.3	0540.6	1				III
	0544	1756	WEIS				1427.7	1430.7	2				IIIGG
			SGMR				1429.8	1430.1	1				V
			SGMR				1629.6	1629.8	1				V
			WEIS				1629.7	1630.3	2				IIIG
			PALE				2058.6	2058.8	1				III
			PALE				2116.8	2118.3	1				III
			SGMR				2116.8	2118.1	1				V
	2029	2400	CULG				2117.0	2118.5	3				IIIG,V
			CULG				2220.5	2354.0	1				IIIN
			CULG				2328.0	2330.0	2				IIIG
28			LEAR				0016.8	0017.1	1				III
	0000	0729	CULG				0017.0		3				IIIB
			LEAR				0140.3	0141.3	1				III
			CULG				0141.0	0141.5	1				IIIG
			CULG				0230.5	0231.5	1				IIIG
			LEAR				0230.6	0231.5	1				III
			PALE				0230.8	0231.0	1				III
			CULG	0321.5	0425.5	1							IN
			LEAR				0338.3	0339.1	1				III
			PALE				0338.3	0338.8	1				III
			CULG				0338.5	0339.0	2				IIIG
			CULG				0341.0		1				IIIB
			LEAR				0416.8	0428.0	1				GG
			CULG				0417.0		3				IIIB
	0420	1758	BLEN										
			CULG				0421.5	0422.5	2				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
28			LEAR				0546.8	0552.6	2				III
			CULG				0547.0	0548.0	3				IIIG,U
			CULG				0551.5	0552.5	3				IIIG,V
			LEAR				0713.8	0715.8	2				V
			CULG				0714.0	0714.5	2				IIIG,V
	0817	1805	WEIS				0849.9	0849.3	3				U
			LEAR				0907.6	0907.8	1				III
			WEIS				0907.6	0908.0	3				IIIB
			SGMR				1304.3	1304.6	1				III
			WEIS				1304.3	1304.8	2				IIIG
			WEIS				1548.2	1548.6	1				IIIB
			WEIS				1557.6	1557.8	1				IIIB
			WEIS				1642.5	1643.3	1				IIIG
			PALE				2001.8	2002.0	1				III
	2029	2400	CULG				2145.0	2145.5	1				IIIG
			CULG				2218.0		1				IIIG
			CULG				2224.5	2226.5	1				IIIG
			CULG				2348.0	2348.5	2				IIIG,V
29	0420	1622	BLEN										
	0000	0729	CULG				0446.5		1				IIIB
	0647	0733	WEIS										
	0757	1818	WEIS				0813.1	0813.6	2				IIIG
			WEIS				1056.3	1058.2	2				IIIG,U
			WEIS				1109.4	1109.6	2				IIIG
	2029	2400	CULG										
30	0433	1418	WEIS										
	0000	0729	CULG				0443.0	0445.0	1				IIIG,V
	1428	1806	WEIS										
			SGMR				1428.6	1428.8	1				III
	2030	2400	CULG				2309.0		1				IIIB
			CULG				2315.5	2338.5				II	,W
31	0000	0729	CULG				0137.0		1				III,BU
			CULG				0402.0		1				IIIG
			CULG				0614.0		1				IIIG,U
	0443	1143	WEIS				0614.0	0614.5	2				IIIG
	1247	1802	WEIS				0703.4	0703.6	2				IIIB
			WEIS				0706.2	0706.7	2				IIIG
			LEAR				0749.3	0751.6	2				V
			WEIS				0753.2	0753.6	1				IIIG
			WEIS				0755.0	0755.8	2				IIIG
			WEIS				0806.6	0806.8	2				U
			WEIS				0849.2	0751.4	3				IIIG
			WEIS				0950.8	0953.6	3				IIIG
	1247	1802	WEIS				1607.6	1607.9	2				IIIB
			WEIS				1633.3	1633.5	2				IIIB,U
			WEIS				1652.4	1653.9	3				IIIGG
			SGMR				1652.8	1654.0	1				V
			PALE				1653.3	1653.5	1				III
	2030	2400	CULG	2126.5		2	2126.5		1				IIIG

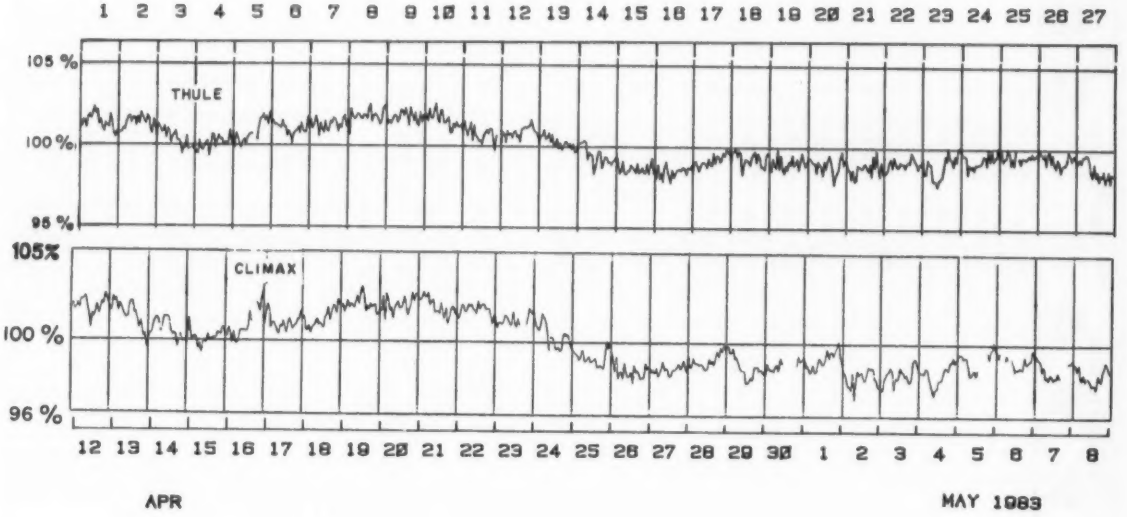
The symbols used under the column heading SPECTRAL TYPE have the following definitions:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

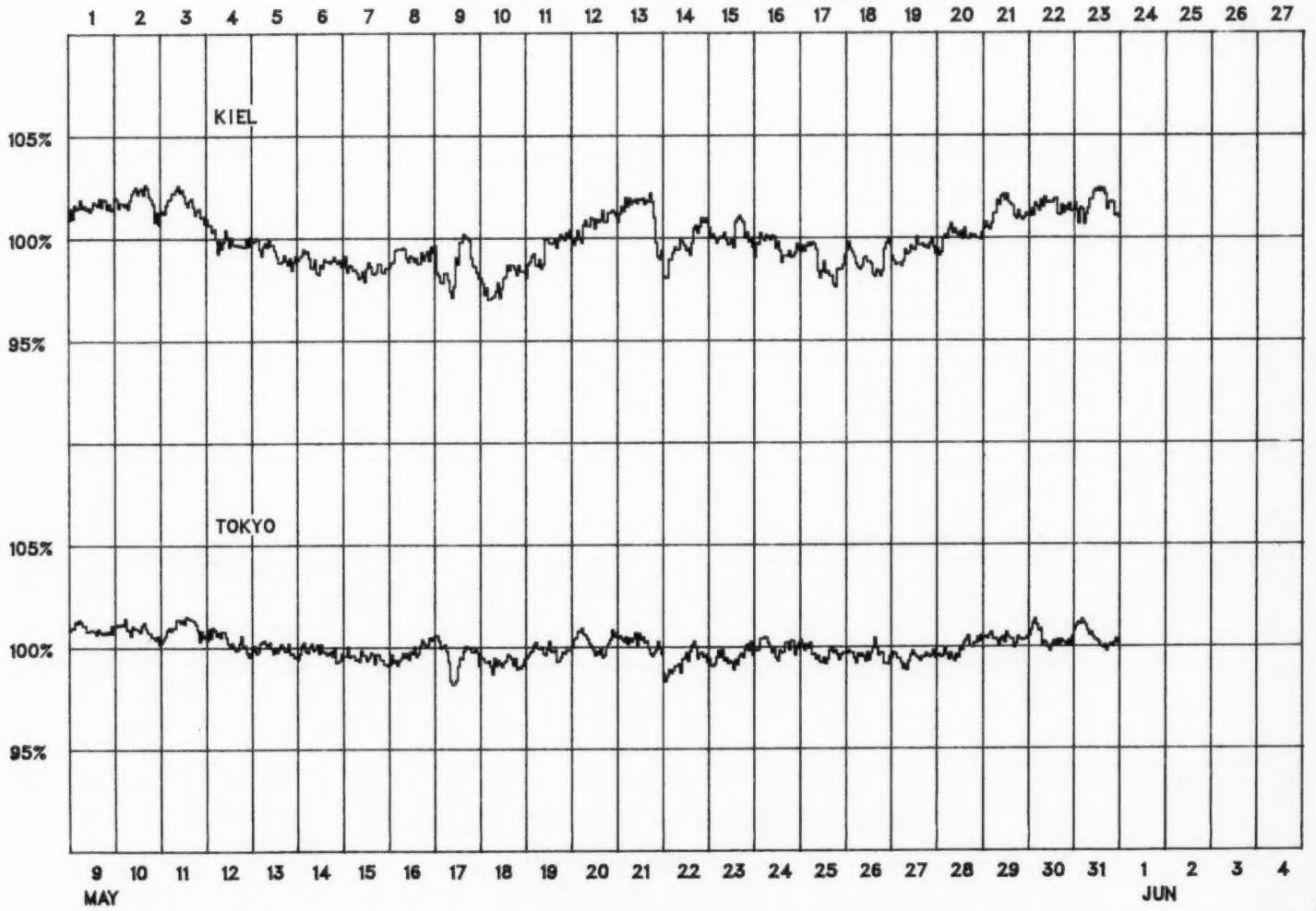
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2046 (April 1983–May 1983)



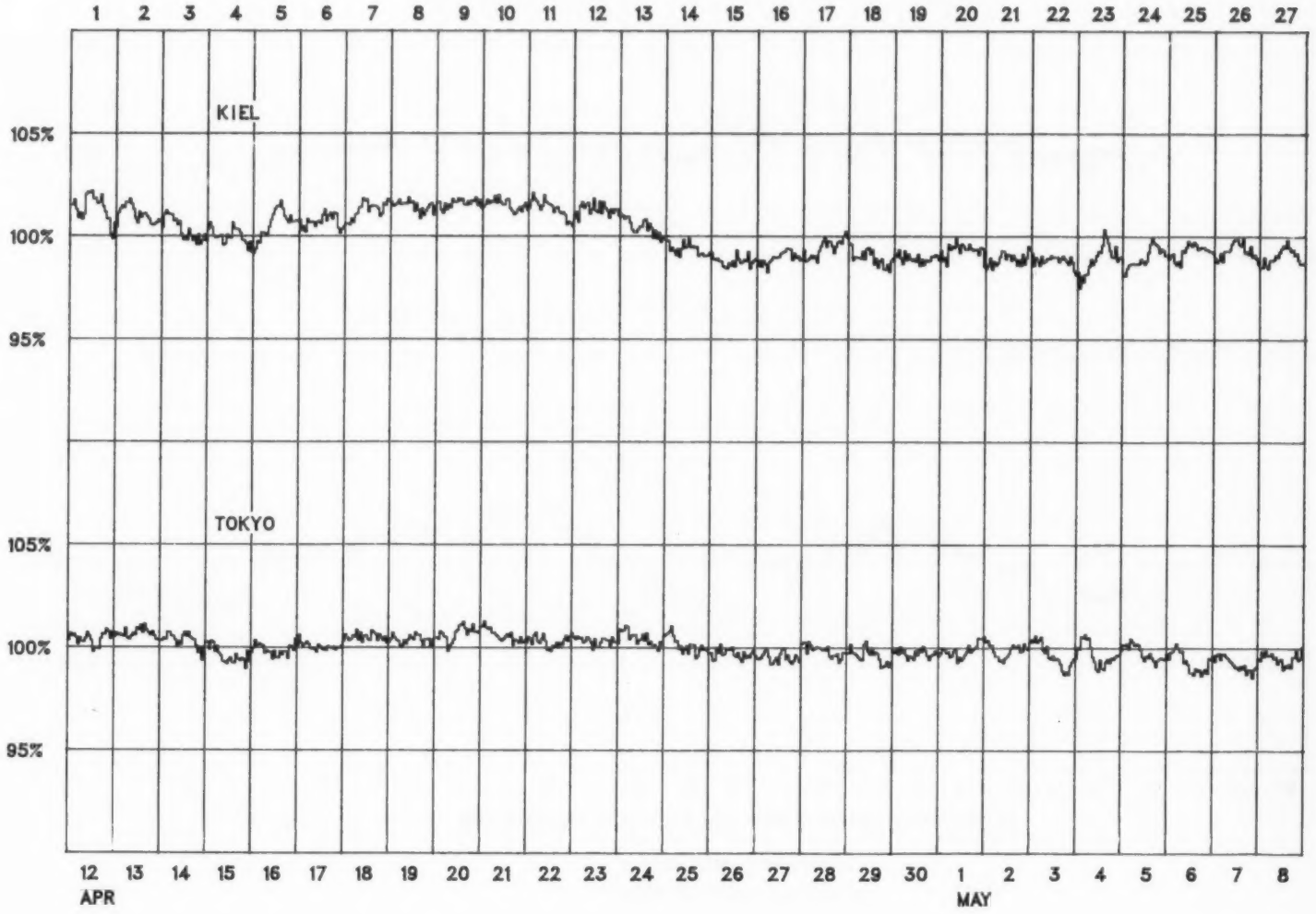
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2047 (May 1983–June 1983)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2046 (April 1983–May 1983)



COSMIC RAY INDICES
(Neutron Monitor)

May 1983

Day	THULE Average (cts/h)/100	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/100
1	3998	5622.6	3637.4	3521.8
2	3989	5598.8	3601.1	3523.9
3	4003	5594.5	3608.4	3515.2
4	3997	5598.7	3610.1	3515.8
5	4012	5603.7	3638.2(38)	3519.7
6	4021	5619.6	3636.9	3503.7
7	4016	5620.7	3619.7	3500.6
8	3991	5606.0	3609.1	3509.7
9	4024	5614.8	3623.1	3521.0
10	4036	5633.5	3621.6	3519.4
11	4007	5623.4	3610.5	3523.5
12	3969	5525.9	3552.6	3500.3
13	3952	5491.2	3532.0	3487.0
14	3926	5466.2	3505.1	3481.5
15	3921	5443.2	3497.8	3471.5
16	3944	5480.0	3521.3	3480.9
17	3890	5456.3	3497.7	3474.2
18	3861	5412.8	3452.3	3462.7
19	3941	5497.5	3519.5	3481.4
20	3983	5565.8	3579.0	3497.2
21	3979	5598.3	3600.3	3496.0
22	3950	5510.5	3545.2	3464.7
23	3955	5536.7	3559.0	3471.2
24	3953	5504.5	3560.8	3488.7
25	3855	5462.5	3496.1	3478.2
26	3914	5469.1	3529.6	3474.7
27	3937	5491.9	3525.7	3470.0
28	3965	5530.8	3542.4	3484.7
29	3995	5597.6	3579.4	3502.2
30	4021	5611.7	3616.9	3502.1
31	4037	5618.9	3642.6	3502.3
MEAN	3969	5548.6	3569.1	3495.1

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

GEOMAGNETIC ACTIVITY INDICES

May 1983

Day	Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	Am	aa N	S	M	
1		3	3-	3+	4-	3+	2	6	3+	27+	24	1.1	3	3	3+	4	3	2-	5	3+	41	38	34	30	42	
2		3+	3-	1+	2-	2	4+	4	2	21+	14	0.8	3	3-	2-	2-	2+	3+	4-	2	25	25	18	14	30	
3		3-	2	3-	2+	3+	2	2	3-	20-	10	0.6	2+	2	3	3-	3	2	2+	2+	21	26	18	24	21	
4		3	4+	4-	4-	5-	5-	4-	3+	31	26	1.2	3	4	4-	4-	5-	4	3	3	46	42	45	41	46	
5		3	3-	2	4	6-	4	4-	3+	28+	24	1.2	3	3-	2-	3+	4	4-	3+	3+	34	42	31	23	50	
6		3-	4	3+	3-	2+	3-	3-	2	22+	14	0.8	3-	4-	3	3	2+	2+	2+	2-	24	22	24	25	21	
7	Q6A	1+	2	2	3-	3-	2+	2	2	17	8	0.4	1+	2-	2	2	2+	2-	2	2	14	17	15	14	19	
8		3	2-	2+	2	2-	3-	3-	3+	19+	11	0.6	3+	2	2+	2+	1+	2-	3	3	21	26	18	19	26	
9	Q4K	3	2	1+	1-	1	1	1+	1+	12-	6	0.3	3-	2+	2-	1-	1-	1-	1	1+	11	14	6	12	9	CK
10	Q5A	2-	1+	0+	2	2	2	3	3-	15	8	0.4	1+	1-	1-	2-	2-	2	3	2+	13	18	8	7	20	K
11	D5	3	3	5+	6	4+	6-	6	5+	39-	50	1.6	3-	2+	5-	5+	4	6	5	5	82	78	58	61	76	
12	D3	6	5+	5-	4+	4	6-	5	6-	41-	52	1.6	5+	4+	4+	4-	3	4+	5-	5+	72	73	47	50	71	
13		4	4-	6-	4+	5-	5+	4	4	36-	37	1.4	4+	3+	5	4	4	4+	4-	4	58	57	59	60	57	
14		5	4	4-	3	3-	4	4	2	28+	23	1.1	4	4-	3+	3	3-	3+	3+	2	35	40	28	31	37	
15		4-	3+	3+	3+	4-	3+	3	4	28-	20	1.0	4-	3+	3+	4-	3+	3-	3-	3+	35	35	23	29	29	
16	Q0A	2	2	2	2	3-	2+	2+	3	18+	9	0.5	2	2	2+	2+	3-	2+	2+	3-	19	21	15	15	22	
17	D2	5-	3-	3+	4+	6-	5-	7+	7+	40	64	1.7	4	3	4-	4	6-	4+	6	7-	95	79	74	36	118	
18		3	2+	3+	3+	3-	2+	2	2-	21-	12	0.7	3-	3-	3+	3	2+	2-	2+	2-	22	25	17	26	16	
19	Q2	1	2	2+	2-	1-	1-	1	1-	10	5	0.2	1	2	3-	3-	1-	1-	1-	1-	10	13	7	12	8	CC
20	Q8A	1	1+	1-	0+	1	1-	3	5	13	10	0.6	1	1+	1-	0+	1	1-	3	4+	16	18	12	6	25	
21		2	3+	3+	3	5+	6	4+	2	29+	29	1.3	2+	3	3	3-	4+	4+	3	2+	35	46	31	25	52	
22	D4	3+	5+	5+	4	4	5	6+	6	39+	51	1.6	3	5-	5-	4	3+	4+	5-	5-	65	59	44	45	59	
23		5	4+	5+	4	4-	5-	5+	4	36+	38	1.4	4+	4+	4+	3+	3	4+	5-	4	57	54	49	53	50	
24	D1	4	4	3	3-	5-	8	8-	7-	41-	77	1.8	4	4-	3	3-	4	7-	7-	6-	99	92	80	29	145	
25		5	3+	2	1	0+	0+	1+	0+	14-	11	0.6	5	3	2	1-	0+	0+	1	0+	19	20	13	28	6	
26	Q7A	0+	1-	1	1+	1+	3-	4	3+	15-	10	0.5	1-	1-	1+	1	1+	2	3+	3	15	21	15	7	30	
27		3+	3-	2+	1+	3-	3	2	3-	20	11	0.6	3+	3-	3-	2-	2+	3-	2+	2+	21	30	13	19	25	
28	Q1	2	2+	1-	1-	1-	1+	1	1-	9+	5	0.2	2-	2+	1+	1	1-	1-	1	1-	8	12	5	11	6	CK
29	Q3K	1	1	1-	3	2-	1	0+	1-	9+	5	0.2	1+	1+	1	2+	2+	1+	0+	1-	10	12	9	11	11	KC
30	Q9A	1-	2-	2	2+	1+	3+	3+	2	17-	9	0.5	1-	1+	2-	2-	1+	2+	2+	2-	13	26	8	12	23	
31		3	2+	3+	2-	2+	3+	2	2+	20+	11	0.7	3-	2+	3	2	2+	3-	2-	2+	21	28	13	18	23	
Totals											22	.88									34.1	35.8	27.2	31.6	

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As
1	3	3-	3+	4-	3+	2	5	3	38	3	3	4-	4	3	1+	5	4-	42
2	3	3	2-	2-	2+	4-	4	2+	27	3	3-	2-	2-	2+	3-	4-	2-	22
3	3-	2	3	3	4-	3-	3-	3-	27	2+	2-	3	2+	2+	1-	1+	2	15
4	3	4	4-	4-	4	4+	3	3+	44	3	4+	3+	4-	5	4	3-	3	47
5	3-	3-	2	3+	4+	4-	4-	3+	36	3	3-	2-	3	4-	3+	3+	3+	32
6	2+	4-	3+	3	2+	3-	2+	2-	25	3	4-	3-	3	2+	2+	3-	2	24
7	1+	2-	2	2+	3-	2+	2-	2	16	1+	2	2	2	2	1+	2	2-	13
8	3+	2	3-	3-	2-	2+	3	3	23	4-	2-	2-	2	1	1+	3-	3-	18
9	3-	3-	2-	1+	1+	1	1+	2-	13	3-	2+	2	0+	0	0	0	1-	8
10	1+	1	1	2	2	2+	4-	3-	18	1	1-	0+	1	1	1+	2	2-	8
11	3	2+	5	6-	4+	6	5	5-	84	2	2	5-	5+	3+	6	5+	5+	80
12	5+	4+	4	4	4-	5-	5-	5-	71	5+	4+	4+	4-	3-	4	5	6-	73
13	3+	4-	5	4	4	4+	3+	3+	54	5	3	5-	4	4	4+	4-	5-	62
14	4+	3+	3+	3+	3-	3+	3	2	36	4	4	3+	3	3-	3	4-	2	35
15	3	3+	3	4	4-	3	3	3+	36	4	3	4-	3	3	3-	2+	3+	34
16	2	3-	2+	2+	3-	3-	3-	3	21	2	2-	3-	2+	3-	2	2	2+	17
17	4+	3	4+	5-	6-	5-	6+	7-	103	4	3-	3	3	6-	4	6	7-	87
18	3	3-	4-	4-	3	2+	3-	2-	28	2	3-	3	3-	1+	1	2	1+	16
19	1+	2+	3-	3-	1	1+	1+	1+	12	0+	2	2+	3-	1-	0	0	0+	8
20	1+	2-	1	1	1+	1+	3+	4+	19	0+	1-	0+	0	1-	0	3-	4+	13
21	2+	3+	3+	3	5-	5-	3+	3-	42	2	3	3-	2+	4-	4-	3-	2	27
22	3+	5-	5-	4	4-	5-	5-	5-	66	3	5	5	4-	3+	4	5-	5	65
23	4	4	5-	3+	3	4	5-	3+	55	5-	4+	4-	4-	3-	4+	5	4+	59
24	4	4	3	3-	4+	7-	7-	6-	104	4	4-	3-	3	4-	6+	7-	6-	95
25	5-	3+	2+	1+	1-	0+	2-	1	22	5	3	2-	0	0	0	0	0	17
26	1-	1	2-	1+	2-	3-	3	3	17	0+	0+	1-	0+	1+	2-	4-	3	13
27	3	3-	3-	2	2+	3	3-	3-	23	4-	3	3-	1+	2+	2	2-	1+	20
28	2	2+	1+	2-	1	1	1+	1	11	1+	2+	1	1-	0	0	0+	0+	5
29	1+	1+	1+	3	2+	2-	1	1+	13	1	1+	1-	2-	2	1-	0	0	6
30	1-	2-	2	2+	2	3-	3-	2+	17	1-	1+	1+	1	0+	2	2	1+	8
31	3-	2+	3+	2+	3-	3+	2+	3-	25	3-	3-	3-	2-	2-	2	1+	2+	17
Totals									36.3									31.8

NOTE: All aa indices are provisional from 1 January 1981 until further notice, because of the change in the Southern Hemisphere observatory.

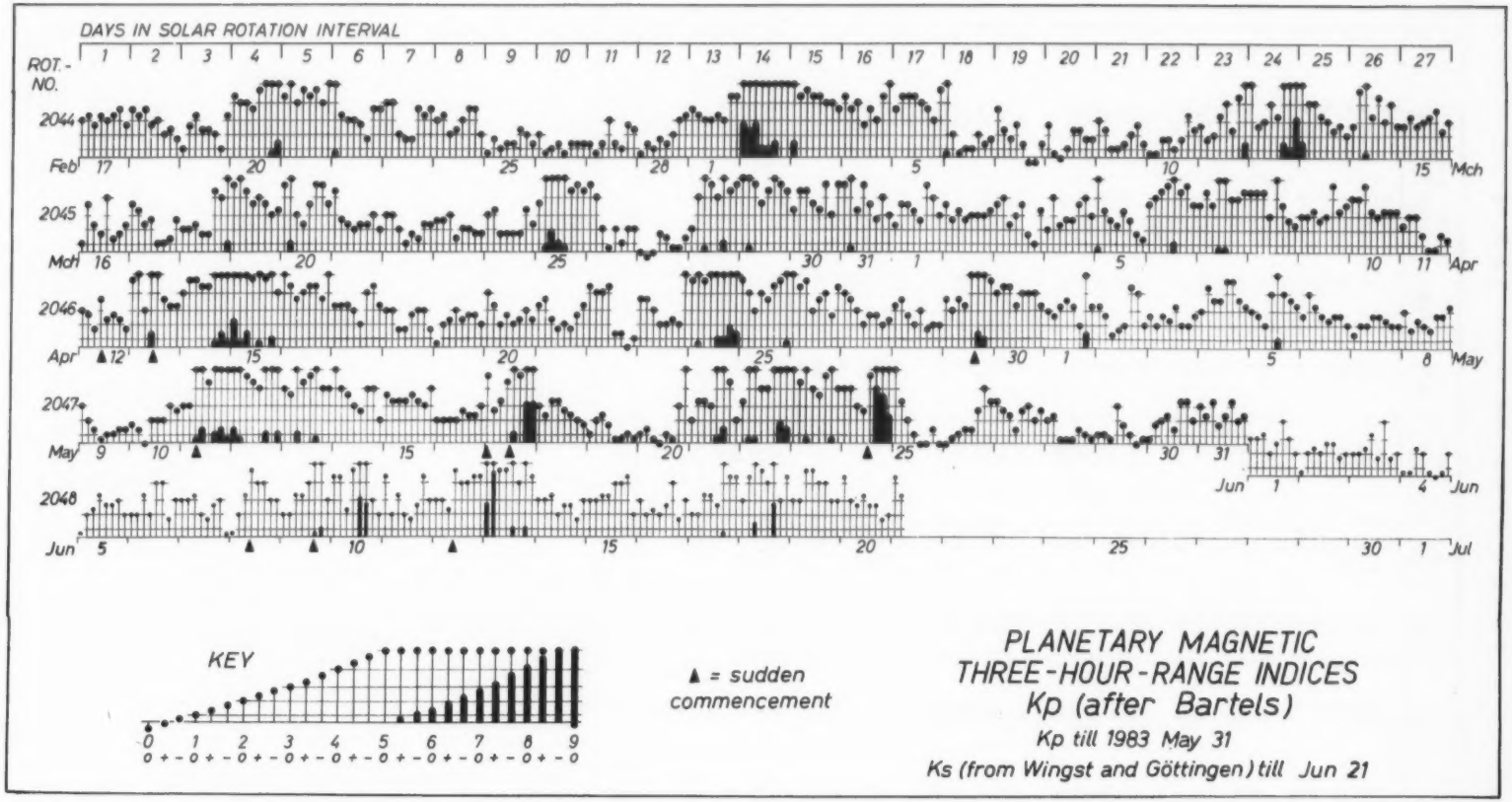
The Geophysikalisches Institut, University of Goettingen, prepares the quiet (Q) and disturbed (D) days, geomagnetic planetary 3-hour-range indices (Kp), magnetic character figures (Cp) and average amplitude (Ap). The 10 most quiet days [Q1-Q0(10)] and the five most disturbed days (D1-D5) are ordered from most quiet and from most disturbed, respectively. A or K means "not really quiet" (A implies Ap>6 and K implies Ap<6 with either one Kp>30 or two Kp values >3-). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic 3-hour indices Km, Kn, Ks and daily mean values Am, An, As and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices, daily north (N) and south (S) values and half-daily antipodal mean (M) values are given. C indicates really quiet 24- and 48-hour intervals centered on 1200 UT; K indicates similar periods with some slightly disturbed 3-hour intervals.

DAILY AVERAGE INDICES A_p

DAY	1982 JUN	JUL	AUG	SEP	OCT	NOV	DEC	193 JAN	FEB	MAR	APR	MAY
1	20	18	12	9	28	36	2	11	11	21	20	24
2	18	10	55	12	24	32	4	7	5	86	16	14
3	9	6	26	21	10	21	9	11	7	36	15	10
4	7	2	15	32	10	8	13	9	59	26	16	26
5	6	4	18	39	9	9	11	6	143	28	17	24
6	14	15	25	199	19	11	3	3	47	12	35	14
7	14	21	107	88	35	4	29	4	43	7	34	8
8	9	15	6	12	21	12	27	9	18	6	25	11
9	16	10	23	50	6	8	18	20	18	8	19	6
10	51	10	27	10	15	11	46	78	23	7	22	8
11	32	36	28	13	14	20	20	11	24	24	8	50
12	59	48	22	14	15	16	14	18	33	53	11	52
13	62	144	10	15	34	18	6	8	35	24	36	37
14	24	153	7	14	30	12	8	8	28	26	45	23
15	26	36	3	12	8	13	11	22	25	15	59	20
16	10	50	6	12	14	9	13	25	30	11	33	9
17	6	24	16	11	21	6	62	25	16	11	19	64
18	7	24	16	30	23	12	41	32	14	20	11	12
19	24	28	10	28	17	10	34	17	10	28	9	5
20	18	24	12	24	14	6	46	14	41	32	13	10
21	9	11	15	76	11	25	37	12	36	12	12	29
22	20	16	24	135	8	30	42	8	21	9	17	51
23	20	12	17	26	5	36	26	10	17	9	17	38
24	21	50	18	22	5	83	19	22	14	10	61	77
25	17	22	20	13	15	54	14	16	6	50	32	11
26	16	27	20	84	30	26	9	12	5	13	28	10
27	32	27	11	42	16	17	18	10	7	3	14	11
28	27	21	12	14	10	28	21	10	8	37	12	5
29	19	22	38	9	35	32	20	16		40	39	5
30	39	23	28	12	27	13	15	19		27	26	9
31		25	16		34		7	13		28		11
MEAN	22	30	21	36	18	21	21	16	27	23	24	22

GEOMAGNETIC ACTIVITY INDICES


DAYS IN SOLAR ROTATION INTERVAL
ROT.-NO.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
2044
Feb 17 20 25 28 1 5 10 15 Mch
2045
Mch 16 20 25 30 31 1 5 10 11 Apr
2046
Apr 12 15 20 25 30 1 5 8 May
2047
May 9 10 15 20 25 30 31 Jun 1 4 Jun
2048
Jun 5 10 15 20 25 30 1 Jul
KEY
0 1 2 3 4 5 6 7 8 9
0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0
▲ = sudden commencement
PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp (after Bartels)
Kp till 1983 May 31
Ks (from Wingst and Göttingen) till Jun 21

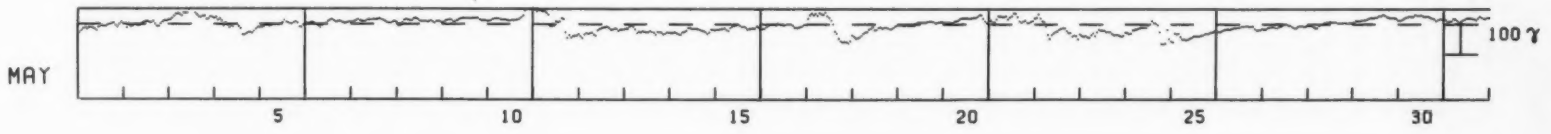
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

NASA/GODDARD SPACE FLIGHT CENTER

MAY 1983

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-29	-21	-14	-11	-16	-11	-8	-12	-16	-21	-10	-7	-5	-7	-6	-2	0	2	4	-4	-9	-1	6	2
2	1	-12	-2	-8	-5	0	-2	-5	-2	2	6	9	9	5	5	9	0	-7	-6	2	8	12	11	14
3	15	21	28	34	35	32	28	38	37	37	50	53	51	36	31	25	23	27	28	16	17	25	24	20
4	23	13	17	10	-6	3	-4	-11	-4	-8	1	-2	-8	-15	-36	-36	-32	-28	-28	-30	-24	-16	-10	-10
5	-10	-8	-3	-2	-6	-5	-1	-2	-1	-2	1	5	13	6	4	1	0	5	7	3	-9	-11	-3	2
6	3	1	5	5	2	-1	-6	-11	-4	0	3	9	13	16	12	7	7	10	7	4	2	5	7	7
7	7	10	13	16	11	10	8	11	15	15	15	17	15	17	19	15	13	10	5	4	3	8	10	6
8	-5	-4	5	14	17	14	12	12	19	20	17	12	9	9	10	8	9	12	7	4	9	10	8	5
9	6	12	14	16	14	7	9	12	16	19	20	20	20	20	19	20	21	21	21	15	12	13	12	10
10	11	13	17	19	19	18	16	15	15	14	12	11	13	12	14	15	18	23	29	45	50	50	51	53
11	48	42	47	47	44	43	38	31	-6	-7	-5	9	6	9	20	17	-27	-46	-37	-45	-40	-39	-38	-34
12	-41	-47	-35	-30	-33	-30	-28	-35	-39	-20	-16	-13	-11	-9	-8	-12	-18	-18	-14	-14	-22	-18	-17	-16
13	-15	-14	-7	-3	-8	-17	-30	-24	-27	-23	-26	-27	-27	-23	-27	-29	-36	-26	-26	-28	-34	-32	-27	-28
14	-30	-29	-27	-31	-34	-35	-27	-25	-21	-11	-12	-15	-14	-15	-16	-19	-21	-23	-26	-32	-27	-17	-18	-19
15	-17	-18	-16	-15	-13	-19	-22	-12	-7	-3	-2	-1	-4	-8	-7	-10	-17	-15	-14	-13	-13	-6	-10	-16
16	-15	-13	-8	-4	-1	2	-1	-3	3	1	0	-3	-2	1	0	0	-4	-11	-11	-11	-8	-6	-1	-1
17	19	31	37	31	36	29	38	34	33	40	28	22	13	0	-23	-31	-47	-56	-59	-58	-59	-63	-55	-36
18	-41	-46	-46	-43	-38	-31	-27	-25	-17	-13	-8	-19	-18	-11	-9	-13	-11	-10	-13	-17	-15	-11	-6	-2
19	-2	-3	-4	-4	-2	-5	-4	-4	-4	3	6	5	6	5	6	9	10	9	8	4	5	7	8	8
20	5	5	6	5	3	9	11	13	19	21	20	21	20	19	21	22	22	26	31	31	19	9	4	13
21	14	7	7	17	28	27	25	25	28	17	24	28	37	36	25	10	6	10	13	5	4	9	12	20
22	23	34	20	11	8	-6	-35	-48	-36	-30	-26	-23	-17	-14	-11	-13	-22	-29	-28	-40	-37	-39	-49	-33
23	-38	-41	-38	-43	-44	-36	-29	-39	-26	-17	-20	-20	-21	-26	-25	-26	-32	-36	-35	-35	-38	-41	-38	-28
24	-28	-33	-31	-20	-18	-16	-14	-11	-10	-9	-11	-3	1	11	3	2	-3	-26	-65	-66	-63	-18	-48	-56
25	-59	-30	-33	-31	-42	-50	-50	-52	-50	-47	-44	-40	-40	-40	-40	-38	-37	-33	-32	-31	-28	-26	-23	-24
26	-26	-25	-21	-18	-17	-16	-17	-14	-12	-11	-10	-9	-7	-6	-6	-5	-8	-7	-6	-15	-20	-19	-18	-14
27	-17	-16	-11	-9	-9	-8	-11	-13	-8	-6	-2	0	0	-4	-5	-9	-13	-13	-7	-6	-5	-4	-6	-3
28	-3	-5	-8	-12	-12	-3	0	0	5	5	6	8	6	6	6	3	3	3	3	4	3	2	4	4
29	6	12	10	10	12	13	14	17	20	22	21	23	24	28	28	32	30	26	23	21	22	21	19	13
30	12	15	19	23	25	27	25	25	31	29	28	30	27	25	26	26	22	19	17	10	14	17	17	16
31	14	7	9	11	18	17	11	4	9	13	16	20	20	21	19	17	14	20	26	22	19	18	21	22



PRINCIPAL MAGNETIC STORMS

MAY 1983

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
HYB	07.6N	01	0230	..	..	..	..	01(1,2,4,5,7) 02(1,2)	3	5	83	34	02	05
HER	33.7S	01	19--	..	..	..	..	01(7)	5	12	62	73	01	22
HYB	07.6N	02	1400	..	..	..	..	02(7) 04(5,6)	5	7	198	29	05	22
COL	64.6N	04	03--	..	..	..	..	05(5)	7	196	1620	670	06	20
KGL	56.5S	04	0041	SC	1	- 10	- 2	04(5,6)	5	33	420	160	05	03
FRD	49.6N	10	1744	SC	- 1	- 4	1	11(4,6) 12(1) 13(3)	6	37	148	95	15	--
BJI	28.5N	10	1856	SC	.8	23	2	11(3)	6	13	144	39	13	19
JAI	17.3N	10	1850	..	..	..	..		-	10	142	38	13	22
SHL	14.7N	10	1850	..	..	..	..		-	8	137	46	13	22
UJJ	13.5N	10	1850	..	..	..	..		-	8	142	37	13	22
ABG	09.5N	10	1850	..	..	..	..	11(3,6)	6	8	153	46	13	22
HYB	07.6N	10	1854	SC	- .1	22	- 1	11(3,6)	6	8	171	31	14	21
ANN	01.5N	10	1850	..	..	..	..		-	7	222	124	13	22
TRD	01.1S	10	1850	..	..	..	..		-	6	279	142	13	22
COL	64.6N	11	07--	..	..	..	..	11(6) 12(3) 13(3)	7	286	1630	1090	15	19
WIT	54.2N	11	0734	SC	2	- 4	0	11(4,6,7) 12(1,6,8) 13(6)	6	30	234	138	13	23
GUA	04.0N	11	0732	..	..	..	..	11(3)	6	--	110	20	11	20
GUA	04.0N	11	2150	..	..	..	..	12(1)	5	10	110	40	12	19
HER	33.7S	11	07--	..	..	..	..	11(6)	6	33	163	174	13	02
GNA	43.2S	11	07--	..	..	..	..	11(6)	7	31	110	180	14	07
CNB	43.9S	11	07--	..	..	..	..	13(3)	6	27	128	69	13	18
KGL	56.5S	11	07--	..	..	..	..	11(6,7)	7	--	--	--	14	10
GUA	04.0N	12	2025	..	..	..	..	12(8)	5	--	130	20	13	15
COL	64.6N	17	0020	SC*	19	192	16	17(5,6,7)	6	285	1500	760	18	01
WIT	54.2N	17	1151	SC*	- 2 *	45	0	17(7)	7	56	240	120	18	01
FRD	49.6N	17	0022	SC*	3	50	- 8	17(5,7,8)	6	36	177	200	19	10
BJI	28.5N	17	0022	SC*	3.2	20		17(5)	6	11	158	30	18	16
HON	21.1N	17	0021	SC		25	8	17(8)	5	11	112	29	18	15
JAI	17.3N	17	0020	SC	- .6	25	- 5		-	10	188	45	18	15
SHL	14.7N	17	0020	SC	1.1	23	4		-	7	171	25	18	15
UJJ	13.5N	17	0020	SC	- .3	31	- 5		-	9	195	44	18	15
ABG	09.5N	17	0020	SC	- .5	25	- 4	17(5,7)	6	10	210	58	18	15
HYB	07.6N	17	0021	SC	- .2	26	- 1	17(5,6,7)	6	8	228	33	18	22
GUA	04.0N	17	0021	SC*		32	- 11		-	--	--	--	17	15
GUA	04.0N	17	1150	SC		11	- 4	17(1)	5	--	150	40	17	15
GUA	04.0N	17	1708	..	..	..	..	17(8)	5	--	60	50	18	04
TRD	01.1S	17	0020	SC	.3	24	35		-	5	254	135	18	15
HER	33.7S	17	0021	SC	3	27	22	17(1,6,7,8)	5	30	171	106	18	01
GNA	43.2S	17	0022	SC	2.3	16	8	17(5,7,8)	6	36	120	200	18	00
CNB	43.9S	17	0021	SC*	- 2.4	22 *	13 *	17(5,8)	6	36	133	71	18	00
KGL	56.5S	17	0021	SC	7		5	17(8)	9	133	950	465	18	02
COL	64.6N	20	18--	..	..	..	..	24(6,7)	8	396	2610	1230	25	07
FRD	49.6N	20	19--	..	..	..	..	20(8) 21(5,6) 22(2,3,7,8)23(2,3,6,7)	5	31	181	127	24	--
HYB	07.6N	20	1800	..	..	..	..	21(5) 22(8)	5	7	161	38	23	23
GNA	43.2S	21	12--	..	..	..	..	24(7,8)	6	32	180	150	25	05
KGL	56.5S	21	0427	SC	- 9	- 30	- 5	22(6,7) 23(6)	6	52	300	200	23	12
GUA	04.0N	22	0030	..	..	..	..	22(2)	5	--	200	30	22	16
HER	33.7S	22	16--	..	..	..	..	22(7,8) 23(1,7)	5	20	67	76	23	21
CNB	43.9S	22	01--	..	..	..	..	24(7)	7	27	226	78	25	05
WIT	54.2N	24	1239	SC*	- *	+ *	0	24(6)	7	25	364	102	25	05
FRD	49.6N	24	1238	SC*	5	- 6	1	24(7,8)	7	31	272	124	25	10
BJI	28.5N	24	1238	SC	.8	43	3	24(7)	6	14	158	35	25	09
HON	21.1N	24	1238	SC		64	5	24(8) 25(1)	5	18	78	56	25	05
JAI	17.3N	24	1239	SC	- 1.1	30	- 7		-	10	110	44	25	08
SHL	14.7N	24	1239	SC	- .4	28	6		-	9	99	35	25	08
UJJ	13.5N	24	1239	SC	- .7	33	- 8		-	9	111	42	25	08
ABG	09.5N	24	1239	SC	- 1.0	25	- 9	24(6,7,8) 25(1,2)	5	8	101	59	25	08
HYB	07.6N	24	1238	SC	- .6	28	- 1	24(6,7,8) 25(1,2)	5	8	104	40	25	09
GUA	04.0N	24	1238	..	..	..	..	24(7)	6	10	120	50	25	07
TRD	01.1S	24	1239	SC	- .4	27	32		-	6	139	120	25	08
HER	33.7S	24	1238	SC	1	14	9	24(6,7)	6	20	125	200	25	05
KGL	56.5S	24	1237	SC	4	25	10	24(8)	9	145	1000	430	25	07

ABG	ALIBAG	GNA	GNANGARA	HYB	HYDERABAD	SHL	SHILLONG
ANN	ANNAMALAINAGAR	GUA	GUAM	IRK	IRKUTSK	SIT	SITKA
BJI	BEIJING	HER	HERMANUS	JAI	JAIPUR	TRD	TRIVANDRUM
CNB	CANBERRA	HON	HONOLULU	KGL	KERGUELEN	UJJ	UJJAIN
COL	COLLEGE	HUA	HUANCAYO	PMG	PORT MORESBY	WIT	WITTEVEEN
FRD	FREDERICKSBURG						

R A D I O P R O P A G A T I O N Q U A L I T Y I N D I C E S
May 1983

DAY	TOKYO	NEW YORK	TEHERAN	OSLO	BRACKNELL
1	5.6	4.7	6.1	5,4	6.4
2	6.0	5.4	6.2	5.0	5.3
3	7.0	5.0	7.0	4.3	4.7
4	4.3	2.6	6.9	4.2	4.0
5	5.9	6.3	5.2	7.5	7.4
6	4.9	6.1	5.4	5.8	6.0
7	6.5	6.5	6.3	5.0	4.9
8	6.2	6.4	5.3	5.4	5.6
9	6.6	6.1	6.2	7.2	6.9
10	7.2	8.2	7.0	7.2	5.6
11	5.1	3.7	5.4	6.8	4.9
12	3.6	2.8	4.1	6.4	5.3
13	4.5	2.1	5.3	6.1	6.6
14	3.8	4.1	4.4	6.1	5.2
15	3.5	4.4	6.1	6.3	4.5
16	5.0	6.5	5.6	8.0	7.0
17	5.4	5.2	5.6	6.2	6.3
18	5.2	5.2	5.5	5.2	3.7
19	6.6	6.2	6.2	7.1	7.3
20	6.6	6.6	8.8	7.6	8.3
21	5.1	7.0	5.3	6.2	6.4
22	4.1	3.5	3.6	4.3	5.7
23	3.0	3.6	5.0	3.9	5.1
24	2.7	2.9	3.0	4.5	4.9
25	4.4	4.2	5.0	5.1	5.4
26	5.8	6.4	7.1	6.9	5.9
27	5.8	6.4	4.5	6.2	6.6
28	6.3	7.3	6.2	6.5	6.4
29	6.4	7.0	6.2	7.4	7.4
30	6.9	7.5	6.2	6.2	6.1
31	6.6	5.5	5.2	6.0	5.1
MEAN	5.4	5.3	5.7	6.0	5.8

CALCULATION OF QUALITY INDICES (Q)

From all 24 hourly field strength values and from all frequencies of the same circuit a median field strength value is calculated (FD). This daily value is compared with the average value (FA) of the preceeding 27 days (1 sun rotation).

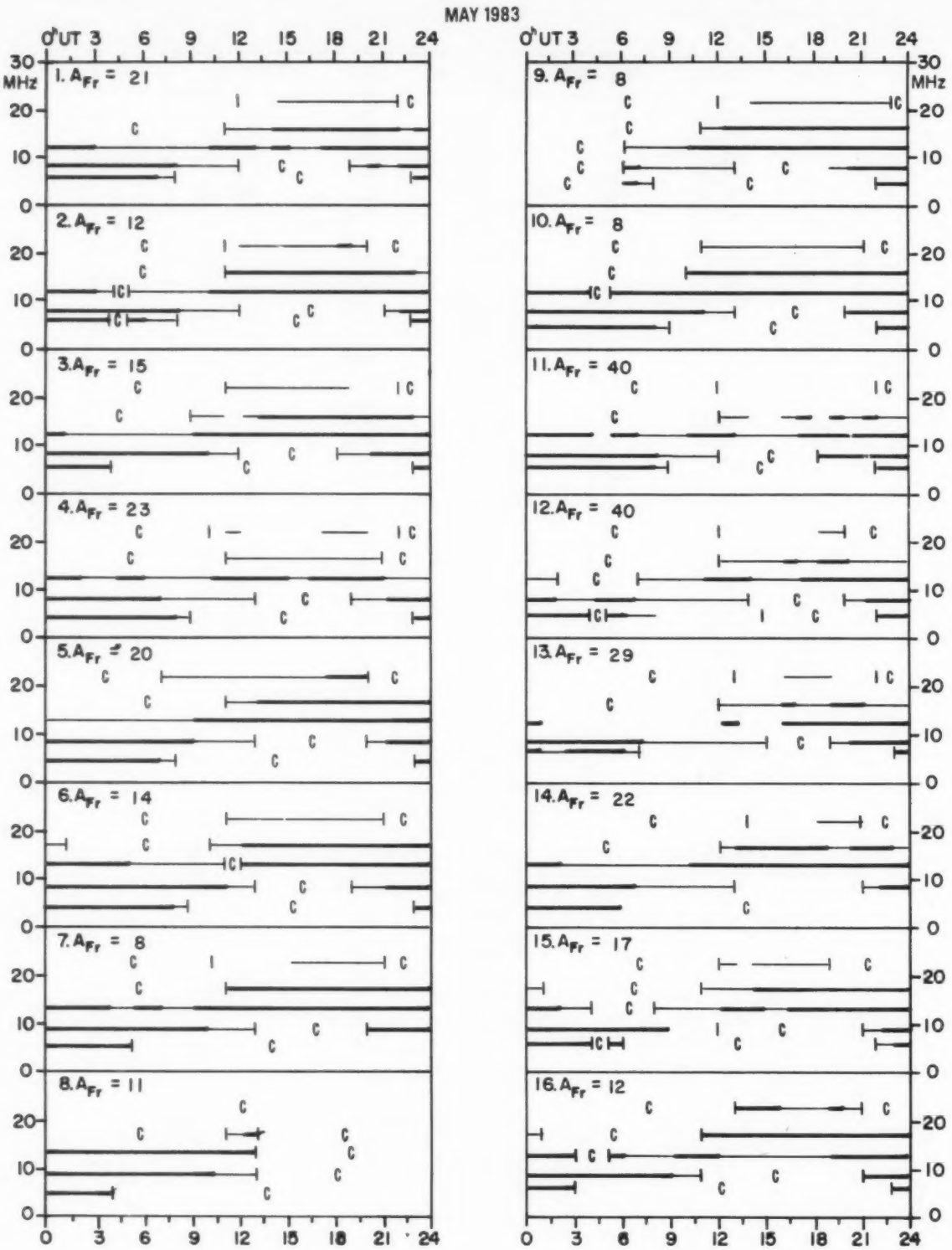
$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

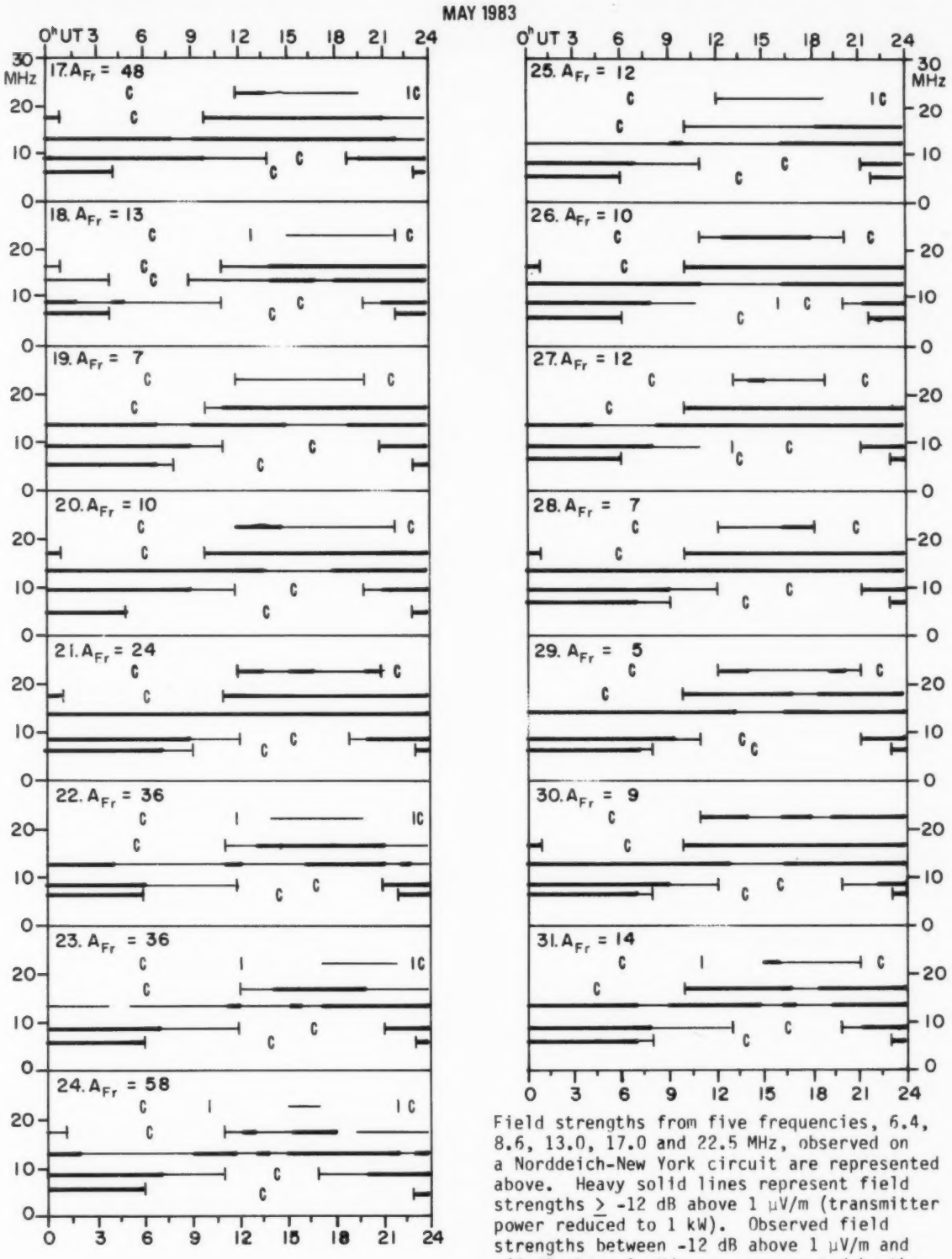
Scale for Quality Indices

0.0 - 1.0 = very poor
1.1 - 3.0 = poor
3.1 - 5.0 = fair
5.1 - 7.0 - normal
7.1 - 9.0 = good
9.1 - 9.9 = very good

TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH



Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Norddeich-New York circuit are represented above. Heavy solid lines represent field strengths $\geq$ -12 dB above 1 μV/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μV/m and -40 dB above 1 μV/m are represented by the fine line.

SGD 467 Part I (Prompt)

LATE DATA

Contents

	Page
Cosmic Rays Huancayo Apr 1983; Climax July 1982	
Neutron Monitors Daily Values	128
Chart of Variations	129
Geomagnetic Indices April 1983	
Chart of Dst by Bartels Rotation	130
Hourly Equatorial Dst Values (Provisional)	131

128
Late
Jul 82
Apr 83

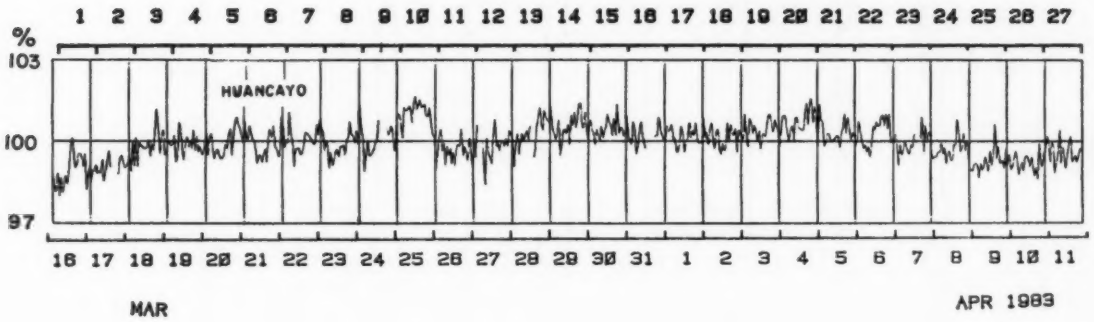
COSMIC RAY INDICES

Day	July 1982 CLIMAX Average (cts/h)/100	April 1983 HUANCAYO Average (cts/h)/100
1	3695.7	1755.0
2	3682.1	1755.1
3	3678.4	1759.5
4	3659.5	1764.2
5	3698.4	1757.5
6	3669.6	1757.2
7	3711.3	1750.9
8	3697.8	1746.7
9	3702.9	1739.3
10	3681.0(36)	1738.4
11	3625.0	1744.9
12	3504.4	1741.3
13	3435.4	1746.0
14	2865.0	1743.3
15	3026.5	1741.8
16	3122.8	1744.2
17	3163.8	1743.4
18	3230.7(36)	1746.3
19	3301.1	1746.7
20	3417.8	1745.4
21	3459.7	1747.6
22	3474.2	1747.9
23	3539.8	1745.8
24	3552.6	1740.4
25	3564.7	1727.7
26	3638.3	1726.3(32)
27	3697.6	1733.7
28	3702.4	1734.6
29	3684.9	1729.0
30	3630.0	1731.0
31	3573.9	1734.0
MEAN	3517.5	1744.2

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

COSMIC RAY INDICES
(Neutron Monitor)

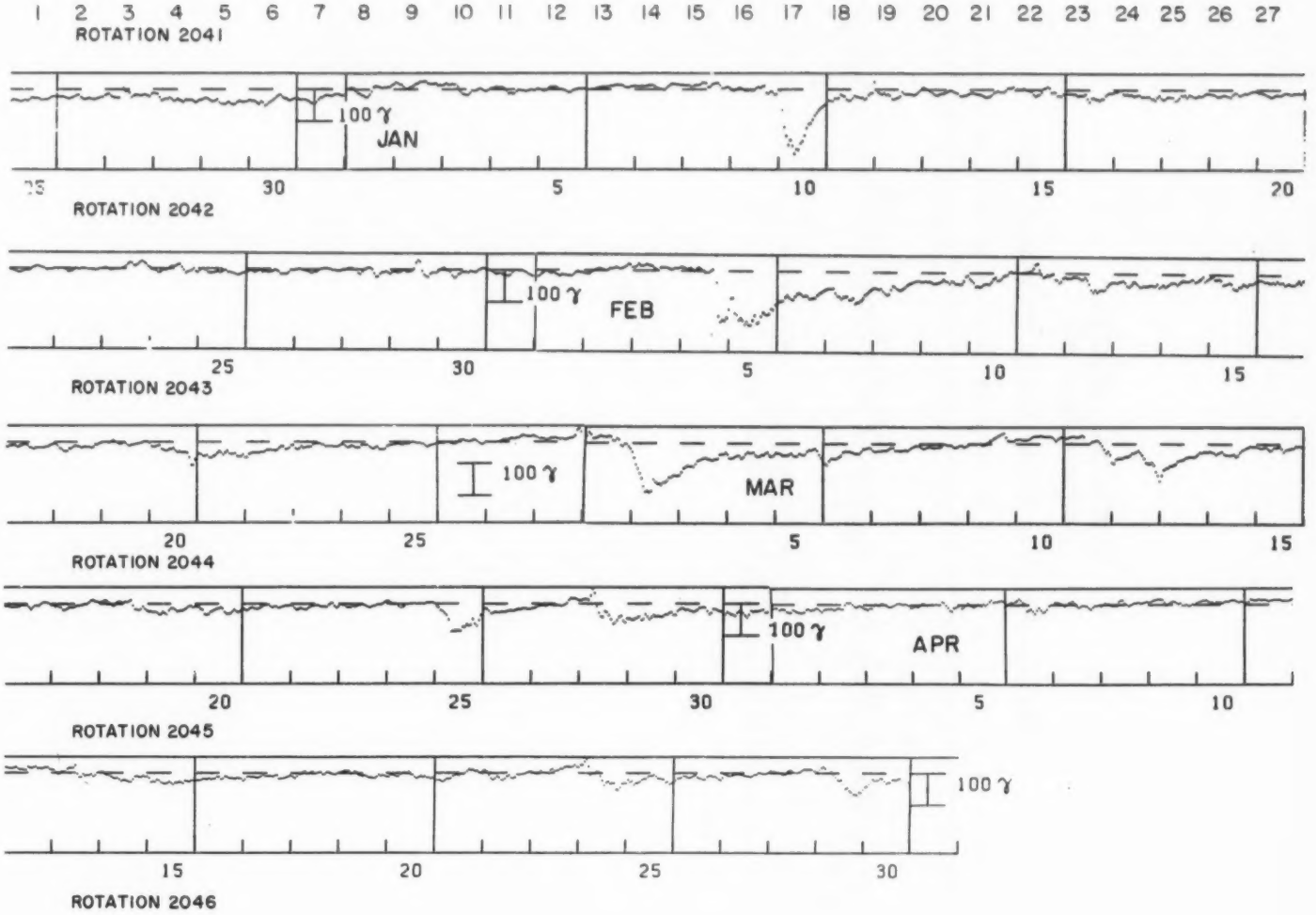
Bartels Rotation 2045 (March 1983–April 1983)



GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst

by Bartels Rotation



Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

NASA/GODDARD SPACE FLIGHT CENTER

APRIL 1983

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-13	-11	-13	-19	-16	-15	-17	-24	-27	-27	-18	-20	-24	-27	-28	-28	-25	-17	-14	-19	-18	-16	-12	-13
2	-19	-24	-17	-15	-14	-14	-13	-17	-17	-12	-11	-15	-14	-1	6	4	6	0	-6	-8	-4	-3	-7	-12
3	-13	-17	-11	-10	-2	2	-1	-2	3	2	-1	-5	-7	-7	-4	-1	3	4	3	1	2	1	-3	-9
4	-8	-5	-4	-6	-2	4	3	-1	-1	0	2	0	2	0	0	9	6	-2	-9	-18	-20	-9	-8	-4
5	1	-11	-7	-1	5	-2	-5	-8	-4	1	0	-4	2	-2	3	9	15	7	9	9	12	13	11	8
6	1	4	8	5	9	13	19	13	7	3	-20	-16	-13	-20	-28	-17	-9	-17	-24	-21	-14	-3	0	0
7	7	6	5	2	1	-5	-1	5	7	10	3	-5	-9	-6	-2	-4	-5	-11	-15	-8	-3	-3	-1	-5
8	-1	4	1	2	-3	-5	-3	-4	9	14	14	4	0	-4	-1	2	5	5	7	3	5	7	9	7
9	8	12	14	16	17	16	14	6	-2	2	6	10	9	5	2	5	-2	-2	0	-3	-3	2	-1	5
10	7	9	12	12	14	9	6	6	3	8	6	6	4	8	10	9	13	14	14	10	7	9	9	8
11	5	8	16	14	13	14	16	14	14	15	13	10	13	14	15	14	16	14	11	12	11	12	15	17
12	18	15	14	14	16	19	13	10	11	9	8	19	16	15	17	20	13	15	13	15	17	17	11	9
13	8	0	-3	-2	3	3	4	12	16	15	16	24	-4	-14	-12	-4	-9	-7	-7	-4	-11	-7	0	2
14	3	3	-4	-6	-7	-11	-15	-18	-15	-20	-26	-22	-22	-25	-29	-27	-20	-11	-9	-13	-14	-9	-12	-11
15	-16	-30	-27	-28	-21	-24	-31	-33	-35	-32	-28	-32	-37	-31	-31	-28	-29	-33	-25	-26	-28	-24	-23	-25
16	-22	-23	-22	-18	-19	-20	-16	-20	-18	-17	-11	-12	-20	-17	-10	-12	-16	-17	-17	-19	-15	-16	-18	-25
17	-20	-12	-9	-13	-11	-13	-15	-13	-10	-6	-9	-10	-8	-9	-11	-7	-6	-18	-17	-16	-14	-11	-9	-7
18	-12	-16	-9	-3	-2	3	5	-1	-1	3	4	-1	1	3	3	-4	-2	3	3	-1	-3	-5	-1	2
19	3	5	7	7	6	-2	0	4	2	-6	-7	-9	-7	-9	-14	-14	-15	-16	-11	-5	-8	-6	-8	-12
20	-11	-5	-4	-8	-10	-10	-3	0	2	0	4	-5	-6	-13	-17	-13	-9	-12	-10	-15	-15	-18	-15	-17
21	-23	-23	-25	-29	-24	-19	-19	-17	-9	-6	-5	-8	-2	-4	-1	4	10	9	9	5	6	1	0	6
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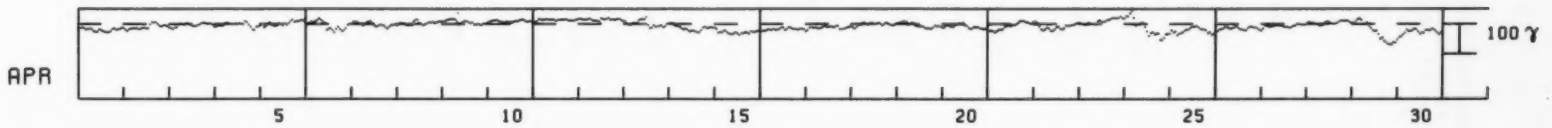
23	1	-1	-3	-2	4	0	-1	-1	-2	8	12	6	7	8	13	13	18	20	19	18	20	25	19	17
24	26	26	36	44	20	-6	1	-3	4	3	-10	-25	-40	-31	-28	-35	-32	-33	-53	-54	-46	-34	-33	-33
25	-22	-30	-26	-38	-33	-31	-28	-22	-19	-18	-12	-8	-9	-6	-11	-17	-18	-19	-21	-31	-28	-37	-33	-31
26	-24	-18	-17	-15	-9	-11	-14	-16	-13	-10	-7	-14	-18	-19	-21	-21	-13	-9	-8	-12	-11	-15	-20	-23
27	-15	-4	-7	-9	-9	-7	-5	-4	-4	-5	-6	-9	-10	-10	-13	-10	-6	-5	0	0	-2	-3	-3	1
28	6	4	4	2	1	-1	-6	-4	-2	5	8	5	1	1	0	3	7	11	10	10	11	10	5	4
29	2	9	16	19	13	1	-1	4	-6	-13	-22	-24	-22	-35	-50	-46	-56	-61	-67	-68	-69	-61	-62	-52
30	-44	-41	-35	-29	-19	-24	-24	-21	-16	-18	-26	-34	-30	-30	-21	-20	-22	-18	-16	-22	-29	-35	-29	-30



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UAG-48A "Synoptic Observations of the Solar Corona during Carrington Rotations 1580-1596 (11 October 1971 - 15 January 1973)," [Reissue of UAG-48 with quality images], by R.A. Howard, M.J. Koomen, D.J. Michels, R. Tousey, C.R. Detwiler, D.E. Roberts, R.T. Seal, and J.D. Whitney, U.S. Naval Research Laboratory, Washington, DC, and R.T. Hansen and S.F. Hansen, C.J. Garcia and E. Yasukawa, High Altitude Observatory, NCAR, Boulder, CO, February 1976, 200 pp, $4.27.

UAG-50 "High-Latitude Supplement to the URSI Handbook on Ionogram Interpretation and Reduction," edited by W.R. Piggott, British Antarctic Survey, c/o Appleton Laboratory, Slough, UK, October 1975, 294 pp, $4.00.

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